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ABSTRACT

This document describes the essential elements of jobs for the Future's (JFF) four-state work force preparation policy proces. It begins with a brief outline of the following five steps: (1) use information to clarify necessary action; (2) create regional and community forums; (3) educate and empower the citizenry; (4) assess employer practices and needs; and (5) build a multisector constituency. Procedures for each step are summarized and each summary contains a list of technical assistance products that JFF developed in assisting states and communities in strengthening their work force preparation systems. Following the outline are three products available from JFF. The first of these, "Developing a Competitive Workforce," is a workbook to help communities in the State of Colorado identify and develop concrete educational initiatives to help people compete more effectively for jobs. The workbook's three primary sections concern the following topics: (1) defining work force issues; (2) setting priorities; and (3) developing an action plan. The workbook provides examples from other communities and lists of resources. The second product, "GamePlan," is a career opportunity learning game. This board game contains exercises that help individuals plan their future working lives. The third product, "Education and Training in the Missouri Economy: A Survey of Missouri Employers," is a report based on a survey of 10,000 employers, to which there were approximately 850 usable responses. Findings are reported that indicate a mismatch between the emerging workforce challenges and the business practices firms currently use to meet those challenges. (YLB)

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VOLUME IV

WORKFORCE PREPARATION STEPS

PRESENTED TO THE UNITED STATES DEPARTMENT OF LABOR BY

Jobs for the Future, Inc.
48 Grove Street
Somerville, Massachusetts 02144

JANUARY 1991

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VOLUME IV WORKFORCE PREPARATION STEPS

The essential "how to's" of Jobs for the Future's four-state workforce preparation policy process are outlined in the steps below. Each step lists technical assistance products that Jobs for the Future developed in assisting states and communities in strengthening their workforce preparation systems. Three products are included in this volume:

- *Developing A Competitive Workforce,* a workbook produced for Jobs for Colorado's Future;
- Copy of GamePlan, a career opportunity learning game; and
- *Education and Training in the Missouri Economy: A Survey of Missouri Employers.*

All products are available from Jobs for the Future by using the publications order form provided at the back of this volume.

Step One: USE INFORMATION TO CLARIFY NECESSARY ACTION

Governors and other policy makers need a sound base of information on which to base policy. This information should be *comprehensive,* integrating economic, demographic, workforce, and institutional data, *objective, accessible,* and presented clearly.

Δ Recast the human investment effort ***as a whole system for lifelong learning,*** not as disaggregated pieces (*e.g.,* public and private, kindergarten through 12th grade, higher education, and workforce retraining).

Δ View the state's workforce preparation system ***in the context of its economy and its place in the larger global economy***. Analyze the changes, strengths, and weaknesses of the state economy as a whole and within its different regions: industrial structure and performance, sources of job creation and loss, and occupational, income, and employment changes.

Δ ***Inventory the reach and scope of the state "human investment" system.***

- Assess the total level of state spending and investment in education, training, and support services for different target populations from cradle to grave.
- Analyze demographic trends.
- Describe the skill needs of current and future occupations.
- Report the educational attainment of the population.
- Highlight the innovative and successful workforce development efforts of state government agencies, communities, and companies.

- Distill into a comprehensible state-specific analysis.

JFF technical assistance products:

- *Human Investment in Missouri,* report of the Jobs for Missouri's Future program
- *Developing A Competitive Workforce,* a workbook produced for Jobs for Colorado's Future

Step Two: CREATE REGIONAL AND COMMUNITY FORUMS

Δ ***Create multi-sector forums.*** These forums provide a valuable opportunity for community leaders to address state and local economic and workforce policy. They encourage new chances for collaboration regionally and locally. Participants should be recruited from many sectors to maximize information flow and collaboration.

Δ ***Examine regional information in each state in unprecedented detail*** by noting demographic, economic, and skill needs regionally and locally.

- Define regional and local economies by their natural economic, geographic, and cultural boundaries. Organize information accordingly and present as much as possible.

JFF technical assistance products:

- *Developing A Competitive Workforce,* a workbook produced for Jobs for Colorado's Future
- *Putting It All Together: The Capacity for Growth in Multi-County Regions of Mississippi,* Mississippi Special Task Force on Economic Development Planning
- *Regional Congress Discussion Guide,* Jobs for Missouri's Future
- *Report on the Missouri Regional Congresses for Workforce Preparation*
- *Report on the Mississippi Regional Congresses for Workforce Preparation*

Step Three: EDUCATE AND EMPOWER THE CITIZENRY

Δ ***Involve citizens in the discussion of economic and workforce development.***

- Let citizens develop some ownership of the process of improving a state's economy by informing them about how they can improve the workforce development system and their own opportunities and by trying to motivate them.

Δ Conduct ***focus groups*** which highlight the opportunities and obstacles citizens face in improving themselves, their communities, and their state by allowing participants to cast economic issues in their own words.

- Δ Conduct worker ***surveys*** to learn about the experience, attitudes, and obstacles facing workers as they cope with education, training, and economic change.

- Δ Launch an ***aggressive communications campaign*** to inform the public about issues of workforce development and economic change.
  - Create and present educational videos, brochures, and newsletters to key constituencies.

Products:

- *Attitudes and Obstacles Concerning Work-Related Learning: A Survey of Colorado Employees*
- *Voices Across the Rockies: Coloradans Talk About Their Economy*
- *Voices From Across Indiana: Hoosiers Talk About Their Economy*
- *Attitudes and Obstacles Concerning Work-Related Learning: A Survey of Missouri Workers*
- *Voices from Across the 'Show Me' State: Missourians Talk About Their Economy*
- *Voices From Across the Delta, Hills, and Coast: Mississippians Talk About Their Economy*
- Copy of GamePlan, a career opportunity learning game

Step Four: ASSESS EMPLOYER PRACTICES AND NEEDS

- Δ ***Survey employers*** to ascertain the nature of skill deficiencies among current workers and in recruiting new hires.
  - Evaluate employer training investments and practices, and their assessments of different training techniques, institutions, and programs.
  - Conduct in-depth ***employer interviews*** with selected firms to add a qualitative dimension to the employer survey that can reveal the gaps in the workforce development system.

JFF technical assistance products:

- *Education and Training in the Colorado Economy*
- *Education and Training in the Missouri Economy: A Survey of Missouri Employers*
- *Education and Training in the Indiana Economy*
- *Report on the Mississippi Employer Survey*
- Employer Field Work Interview Guide, Jobs for Missouri's Future

Step Five: BUILD A MULTI-SECTOR CONSTITUENCY

Δ Seek broad ***input*** for the state workforce policy process.

- Establish a ***multi-sector advisory board***, comprised of top leaders from government, business, labor, education, and community organizations appointed by the governor.
- Reach out to key business people and associations, advocacy and interest groups, and others with a stake in economic and human development and engage them in the process.
- Organize joint events and briefings, and widely disseminate the key information, findings, and recommendations of the state workforce policy process.

A Workbook Produced by Jobs for Colorado's Future

DEVELOPING A COMPETITIVE WORKFORCE

Written by Barbara A. Cole

Jobs for Colorado's Future

JOBS FOR COLORADO'S FUTURE

DEVELOPING A COMPETITIVE WORKFORCE

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WHY YOUR COMMUNITY SHOULD USE THIS WORKBOOK-

A MESSAGE FROM THE GOVERNOR

It used to be that economic growth depended on tangible assets like being located on a railroad line, having an abundant supply of raw materials, or a low-cost labor force. But as the creativity and adaptability of people have become more important to economic growth, so has the need to think of economic development more broadly. Areas that once were considered quite apart from economic development—education, health, quality of life, social welfare policies—must now be examined as critical factors that will determine whether communities will grow and prosper.

Saying that people are key to long-term, sustainable, economic growth is easy. Knowing what to do about it—how to actually assess and strategically develop a community's human capital—is a lot harder. The "soft" issues of education, leadership and social welfare seem complex and unwieldy compared to the "hard" development tools of bricks and mortar and tax incentives. Yet, hundreds of communities around Colorado and the country are proving that focused efforts to raise the skill levels and flexibility of their workforce can make a difference to their economic well-being.

How can a community get started? First, the community must develop a clear understanding of where it starts from: the strength of its workforce and its weaknesses. Second, a community needs to develop a vision of where it wants to go. And, finally, the community must assess its resources and create a series of manageable steps—an Action Plan—to achieve its vision of the future.

This workbook will help you develop concrete strategies for strengthening the skills of the people in your community. It also will help you understand the education and training available to them. It focuses primarily on one particular aspect of human investment: developing the skill base of your workforce. Other issues, such as health, housing and welfare, may also be critical to a community's long-term economic and social well-being, but are not addressed in this workbook.

This workbook grows out of several basic principles that underlie the work of Jobs for Colorado's Future.

- The future is not a foregone conclusion. Intervention by communities to improve the skills of Colorado's workforce can make a difference.

- Building competitive people, businesses and communities cannot be achieved by one group working alone. It will take the combined efforts of government, business, workers, educators and community organizations.

- Strategies developed to improve Colorado's workforce at both the state and local levels must consist of sustained actions implemented over a long period of time. There are no quick fix solutions.

- Strategies for improving the Colorado workforce must take into account the values and desires of Colorado workers and communities themselves. Mechanisms must be developed that allow citizens and communities to make their own choices.

I believe that the foundation for a better future rests on a skilled and prepared workforce. The process of gathering information, questioning assumptions and targeting action outlined in this workbook will be helpful to Colorado communities as they adapt to the rapid economic changes sweeping the nation and the globe.

The strong community spirit, fierce independence, and sense of self-reliance that have long characterized our state have traditionally been our strongest assets. We must turn those assets to the task of securing a better future for ourselves, our children and our communities.

Roy Romer

Roy Romer
Governor

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DEVELOPING A COMPETITIVE WORKFORCE

Why Improve the Workforce?:

Colorado, like most of the country, is undergoing rapid technological change. We are fast becoming part of a global economy. It is an economy that relies more than ever before on information, creativity and innovation. The workforce is also changing — 75% of the workforce in the year 2000 is already in the job market; the number of minorities in the workplace is expected to increase; and Colorado's workforce and population growth rates between now and 2010 will slow to almost 1/2 that of the 1970-1988 period.

Economic growth in Colorado can occur if we can sustain and increase the skill levels of our residents. To compete effectively in this changing economy, our state needs well-educated, well-trained and very adaptable workers. With the right type of workforce, Colorado communities can compete with anybody in the world.

This workbook will help you develop a strategy for yourself and your community to institute needed changes. It is specifically designed to help community leaders identify and develop concrete educational initiatives to help people compete more effectively for jobs. These investments in people will in turn strengthen the local economy.

As the Colorado labor market changes, we in the workforce are going to need to upgrade and expand our skills. Consider the following:

- **Workers entering today's workforce will face five to seven career changes in their lifetimes**
- **30% of today's jobs won't exist in 10 years**
- **50% of jobs today didn't exist 20 years ago**
- **20 years from now, 90% of the information a worker has to cope with in his job will be created after today.**

This means that we will need to improve our skills throughout our working lives. We will need a broad range of skills to compete effectively in the emerging labor market. For smaller communities to remain viable employment centers, public and private interests are going to need to provide an education and training system that allows each of us opportunity for continuous improvement.

This workbook is intended to help your community begin to develop such a learning system. It will be most useful for those that are concerned about the quality of the community's workforce and are just beginning to explore how they might improve their workforce. It will allow you to develop a preliminary work plan; in essence, a first cut at the very complex issue of building a more competitive workforce.

A more competitive global economy is putting new demands on Colorado's workforce. To keep up, Colorado must provide the right kinds of education and training. If we prepare well, I think Coloradans can expect to excel in this rapidly changing world.

D.D. Hock, Chairman,
President and CEO of Public Service Company of Colorado.

Through the use of worksheets, the workbook will help your community analyze its workforce. The workbook will help you identify "workforce issues". As used in this workbook, a workforce issue refers to missing skills or the lack of particular knowledge. The workbook wil help you address local skill gaps and identify opportunities to improve workforce skills. It will help you to decide upon the best course of action for your own community. You will realize that there is no right or best answer to improving the competitiveness of your local workforce. Rather, you will see that you need to develop a strategy that builds upon your community's unique resources and particular needs.

While the goal of this workbook is to help communities address critical workforce and educational issues, lasting improvements in workforce skills will require sustained action, implemented over a long period of time. The most successful programs are composed of a number of different projects and independent actions. Ideally, your community's program will contain some projects that can be initiated immediately, some that can be carried out over the next few years and some that have longer term implications.

There are three primary sections to this workbook. They are:

PART 1: DEFINING YOUR WORKFORCE ISSUES

PART 2: SETTING PRIORITIES

PART 3: DEVELOPING AN ACTION PLAN

Throughout this workbook, there are successful examples from other communities and lists of resources to help your community determine what is needed to develop a successful workforce improvement program.

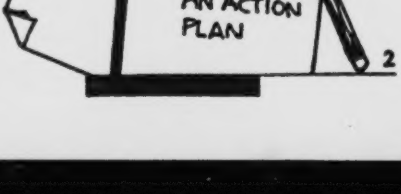
The first section — **"Defining your Workforce Issues"**— helps you to understand who is in the workforce and what skills they have. A "workforce issue" is the difference between the skills workers have and what employers need today and in the future. The four steps in this section outline a process to analyze the strengths and weaknesses of the workforce. It will help you identify a focus for your community's workforce improvement program.

The purpose of Part 1 is to:

- **Identify assumptions about the workforce—what do you think the workforce issues are in your community?**
- **Determine who is in the workforce, what skills they have and what education and training opportunities exist. Learn what information is needed to help your community understand workforce problems and issues**
- **Decide how you will find and collect the information you need to analyze workforce conditions**
- **Determine your critical workforce issues by comparing your assumptions against the facts**

" A skilled and educated workforce is the hallmark of a competitive economy. Lifelong education and training are necessary in order to remain competitive as individuals. As we face a rapidly changing future, Colorado's challenge is to ensure that its workforce has the necessary opportunities to be highly competitive and highly flexible."

Jerry Wartgow, President,
Colorado Community College and Occupational Educational System)



DEVELOPING A COMPETITIVE WORKFORCE

DEFINE THE WORKFORCE ISSUES

STEPS

1. Identify assumptions
2. Determine what facts you need
3. Find and collect information
4. Determine critical workforce issues

SET PRIORITIES

STEPS

5. Develop a vision for the future
6. Determine goals
7. Generate project ideas
8. Analyze what projects are likely to be successful

DEVELOP AN ACTION PLAN

STEPS

9. Determine an overall schedule
10. Develop an Action Plan
11. Assess what resources are availble
12. Develop a system to report benefits and gauge your effects
13. Evaluate your efforts

PART 1 OUTCOMES

- A clear understanding of community workforce issues
- Agreement about what you want to accomplish

PART 2 OUTCOMES

- Program goals
- A list of projects that can successfully address workforce issues

PART 3 OUTCOMES

- A "work plan" or game plan to address current workforce issues

The purpose of the second section — **"Setting Priorities"**— is to select projects that will comprise your community's overall workforce improvement program or action plan. It will help you focus your energies in those areas that have the greatest potential of improving needed workforce skills.

Part 2 Includes:

- **Developing a vision that describes the ideal workforce. This will help you keep, attract and create the kinds of businesses you want in your community;**
- **Determining your chief goals for your workforce improvement program;**
- **Generating a list of project ideas that address your goals;**
- **Analyzing what projects are likely to be the most successful.**

Finally, the third section — **"Developing an Action Plan"** will help your community develop a strategy that will serve as an initial work plan. Your action plan will be composed of a number of complementary projects.

The purpose of Part 3 is to:

- Develop an overall schedule to initiate your action plan
- Outline specific tasks to initiate each project, and when those tasks need to be done
- Assess what resources are available including who needs to be involved and responsible, what ideas or information can you capitalize on and what funding will be necessary
- Figure out how to build and maintain project support by reporting project benefits and
- Learn how to monitor and evaluate your progress

There is also an **appendix** included in this workbook. The appendix lets you know where to go for additional help. It defines words that are used frequently throughout this workbook, and where to find additional information and research.

When you finish this workbook, you will know what you need to do to initiate changes to make the area's workforce more competitive. Community leaders will have a better idea of where to focus resources to make a difference. You should have an outline of specific tasks that can be initiated immediately.

Note, however, that three important ingredients are missing. These are process issues that will need to be addressed outside the context of this workbook.

PROCESS ISSUES

1) NEED FOR COMMUNITY CONSENSUS - For your effort to be successful, you need to ensure the resulting action plan needs to be agreeable to others in the community. Community consensus means people who have a stake in improving the quality of the workforce understand, can live with, and can support a series of actions that can improve the skill levels of all community residents.

Every community can do something to improve the competitiveness of its workforce. However, to make meaningful changes, it's important to target your efforts. Targeting requires an understanding of what is really happening to the workforce and who in the workforce needs assistance. For example, if a majority of your workforce are displaced, technically proficient mining engineers or if you are a community that has a high proportion of highly skilled craftsmen over the age of 55, your strategy should be different from a community that is a new workforce that has immigrated to this country and English is not their first language."

Marion Paul, Executive Director,
Jobs for Colorado's Future

2) NEED FOR A COMMUNITY-BASED PROCESS - This workbook provides a framework to develop an overall workforce improvement program for your community. As part of this effort, it will be important to determine how different interests can be brought together to work collectively. Efforts to improve the workforce will need to include a step by step process or strategy that will allow different interests in the community to work together to improve workforce skills. By first working through this workbook on your own or with a small group of interested people, you will better understand who has a vested interest in this process and who needs to be involved.

3) PLANNING IS A CONTINUING PROCESS - Improvements in the quality of the workforce will not be the result of a single action. Be prepared to make such adjustments. Be prepared to change your work plan.

Using the Workbook:

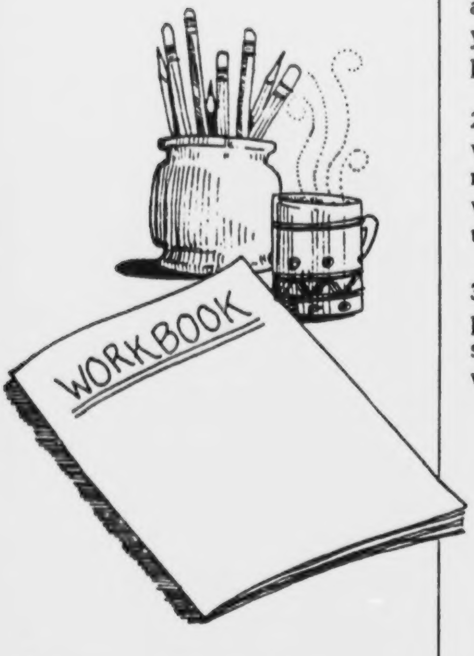
This workbook is very comprehensive. It presents a process and methodology for performing a complete workforce analysis. You may wish to gauge the depth of the analysis to suit your community's needs. If at all possible, it is best to complete the data collection and analysis section before you develop your workforce improvement projects and overall action plan. There are suggestions within the workbook to assist your community determine who can help you gather this information. While there is value in undertaking the entire workbook process, some communities may choose to use only parts of the workbook. The workbook is organized to accommodate different uses and different audiences.

There are a number of people who may find this workbook helpful:

1) If your community is just starting to look at ways to improve the competitiveness of the workforce, interested individuals may wish to read through the workbook to gain an understanding of what is involved in addressing workforce issues at the community level. The workbook will provide you with the necessary framework to develop your own workforce improvement program.

2) If community leaders have come to recognize that improvements in the workforce are a necessary ingredient for successful economic development, they may wish to hold a series of community workshops to work through the series of worksheets presented. This will result in a determination of what projects to undertake to make the community's workforce more competitive.

3) The third and most ideal way to use this workbook, is to allow paid staff — planners, economic development specialists, educators, or human resource specialists to guide citizens in Colorado communities through this step by step workforce improvement process.



PART 1: DEFINING YOUR WORKFORCE ISSUES

This section helps you analyze the strengths and weaknesses of the workforce. It will help your community clearly define workforce issues.

Understanding the real workforce issues in your community is key to developing solutions to address these issues. With a clear definition of workforce issues, it is possible to discuss and agree upon workable solutions.

There are 4 steps:

Step 1: *Identify assumptions you have about the workforce - what do you think the workforce issues are?*
Step 2: *Determine what information is needed to check commonly held assumptions*
Step 3: *Decide how you will find and collect this information*
Step 4: *Determine critical workforce issues by comparing your assumptions against the finformation you have gathered*

Step 1: Identify assumptions you have about the workforce - what do you think is going on?

Every person in every community holds some assumptions about what the local workforce is like. These beliefs about what is happening in your community directly effect what type of projects you will undertake. The purpose of this first step is to help you articulate your beliefs about your community's workforce. This step will allow you to better understand local perceptions about the workforce and will help you understand the strengths and weaknesses of the local workforce. Don't worry about what is right or wrong. The purpose here is to list as many *beliefs or feelings* about the local workforce as you can.

Ideally, this step should be completed by a group of community residents. You might use this worksheet at a community workshop or meeting. However, you could easily gather a group of your friends and have them help you answer the questions.

Community leaders in the Denver region believe that ample adult education and training facilities are available, but few people understand how to access them.

"We're learning the hard way how important it is to invest in our workforce. Last year we invested millions of dollars in new technologies but we didn't think about training. We thought it would take employees a few weeks to learn how to run the new machines—instead it took six months and we lost a great deal of money."

metro area plant manager

Community representatives from all sectors in Larimer-Weld County agreed that the region's workforce strengths included a high education level, low-cost labor pool, and a strong work ethic displaying honesty, integrity, and low rates of absenteeism. They saw workforce weaknesses as a lack of job readiness by those entering the workforce, workers lacking math competency and a labor force as a whole that did not possess a wide range of skills.

For scientists and engineers, lifelong learning generally means some program of continuing education to keep up with fast-moving changes in their fields. Given the rapid pace of change in virtually all fields of science and engineering, having an effective system for meeting the continuing education needs is especially critical to economic competitiveness. Hewlett-Packard of Loveland understands this. They estimate that the half-life of a new engineer's knowledge is only about 3-5 years. In response to this need, HP provides a full array of in-house classes taught by HP trainers and outside instructors and offers tuition and flex-time for employees taking courses at outside institutions. HP has even instituted a computer resource center that allows employees to find out what skills and education they need to move up to a new position in the company.

STEP # 1 WORKSHEET-
PERCEPTIONS ABOUT THE WORKFORCE

1A) How would you characterize your community's workforce? Do you see the characteristics of the workforce changing over the next 5 years?

Use the chart below to record your perceptions about the local workforce. Place a checkmark next to those traits that you think characterize your current workforce. Using the same checklist, indicate those traits that you think will characterize the workforce five years from now if no action is taken. If you check more than one box, indicate who in the workforce is characterized by the specific trait.

WORKFORCE CHARACTERISTICS

CURRENT	FUTURE	CHARACTERISTIC	WHO
☐	☐	Fully Employed	
☐	☐	Employed	
☐	☐	Underemployed	
☐	☐	Unemployed	
☐	☐	Overly trained-do not use skils	
☐	☐	Highly trained-use skills	
☐	☐	Well-trained/educated	
☐	☐	Basic training/education	
☐	☐	Lacking necessary skills/training	
☐	☐	Well paid for skill level	
☐	☐	Paid fairly for skill level	
☐	☐	Underpaid for skill level	
☐	☐	Not paid in area of skills	
☐	☐	Retiring workforce	
☐	☐	Older workforce	
☐	☐	Mid-career workforce	
☐	☐	Early career workforce	
☐	☐	Emerging workforce	
☐	☐	Minorities well-represented	
☐	☐	Minorities underrepresented	
☐	☐	Women well-represented	
☐	☐	Women underrepresented	
☐	☐	Growing workforce	
☐	☐	Stagnating workforce	
☐	☐	Declining workforce	
☐	☐	Workforce lives and works in community	
☐	☐	Workforce lives in community and commutes over 1/2 hour	
☐	☐	Workforce commutes in from another community	
☐	☐	Educated in Colorado	
☐	☐	Educated elsewhere	
☐	☐	Educated in Colorado and elsewhere	

B) What are the strengths of the workforce? What are the weaknesses? Refer to the story in the margin to answer the next set of questions.

• You have been asked to highlight the special qualities of your local workforce. What would you tell this new business? What current assets or emerging opportunities would you mention?

- ______________________________
- ______________________________
- ______________________________
- ______________________________
- ______________________________

A new business is thinking about moving into your community. It is a large employer that will need many different types of workers. The potential employer has informed City Council and the regional Chamber of Commerce that the firm prefers to hire local workers. Your group has been asked by City Council and the regional Chamber of Commerce to convince this employer to move into your community.

In preparing your presentation, you know that this new business will first be talking to other communities in other states. You know these other communities will do anything to prevent you from recruiting this business. Most likely, they will point out why your community's labor force is so poor.

What labor force weaknesses do you think they will mention?

- ______________________________
- ______________________________
- ______________________________
- ______________________________
- ______________________________

Step 2: Determine what information is needed to check commonly held assumptions about the workforce

Finding out what the real condition of your community's workforce is an important, though often overlooked, component of developing a successful program to improve community job skills. To develop a successful program, you will want to dedicate the necessary time and resources to this step. Without planning, information gathering can be a never ending task.

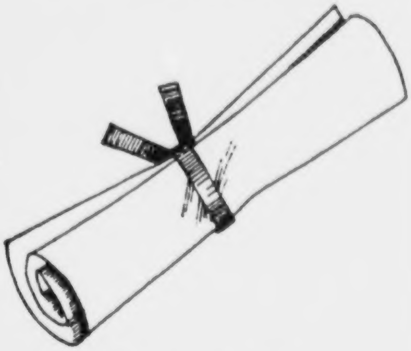
Step 2 helps you determine what facts you need to gather to find out what is really happening with your community's workforce. By truly understanding the factors that effect the local workforce, you can work toward improving the quality of worker's skills.

This information gathering step is very comprehensive. Ideally, there will be resource people in the community that can help you complete this step. The appendix—Where to Go for Additional Help— can help you initiate this effort. Additionally, a Colorado publication called - "A Guide for Targeting Industries in your Community" written in 1985 by Tom Clark for the Region 10 Council of Governments includes a chapter on data collection that is excellent.

Colorado has a leg up in the manufacturing industries that is significant. We have an excellent workforce that is prepared to work as opposed to sitting around figuring out how not to work. As a state with western individuality and independence, we are predisposed to the kind of self management concepts in manufacturing that are sweeping the country. We have affordable housing, inexpensive energy, and inexpensive land. Those are just a few of the advantages that a manufacturing organization looks for."...

Larimer-Weld
Jobs for Colorado's Future
community workshop participant

The telecommunications industry in the Boulder-Denver area has grown around four main forces— research and development facilities in Boulder, the presence of US West, the establishment of the cable TV industry in Denver by Bill Daniels and the establishment of the region as an aerospace/defense industry center. Many telecommunications organizations want to be near other such organizations both to have ready access to an experienced talent pool and to reap the creative synergy that comes out of "techies talking to other techies" as one Coloradan put it.



Since the mid 1980's, many professionals have advocated the concept of a community school as a means to improve the quality of our workforce. The community education concept includes three important components:
"1. Learning is a lifelong process, a continuous spectrum.
2. Everyone has a stake in education, and citizens have a right and a responsibility to be involved in their community schools.
3. Schools should be open to the community and services should be expanded to serve the entire community; at the same time, community resources should be used by the school"...

from "the School of the Future will be a Community School",
by C. William Brubacker,
Community Education Journal,
January, 1988.

Consider looking to the local community college, the town planning staff, county statistician or research specialists that may be employed by the regional Council of Governments for assistance in completing this step of the workbook. If you cannot find help, you might wish to target your information gathering to those facts that you absolutely need to know.

What information to gather:

There are three primary factors that affect the quality of the workforce in your community — **economic forces; workforce characteristics, and education and training opportunities.** By looking at each of these three major factors you can analyze community workforce conditions. It's important to consider current needs as well as future trends.

This next worksheet (Step #2) is very comprehensive and will take a lot of time to complete. Read through the entire worksheet and then prioritize what information you really need to collect.

STEP # 2 WORKSHEET-GATHERING INFORMATION

1) ECONOMIC FORCES

Definition:

Economic forces looks at how businesses in your community are changing and how these changes affect the workforce. Changing technologies, new production methods and new types of businesses require new skills. By understanding what is happening to industries and businesses in your community and in Colorado as a whole, you can begin to understand what job skills are needed now and what new job skills will be needed in the future.

Questions to Address:

1) Where are local workers employed?

Use data available from the Colorado Department of Labor and Employment or the annual *City and County Data Book* to classify employment in your community according to major "industrial" categories. Known as an "industrial profile", these categories are: mining, construction, manufacturing, transportation and communication, trade (both wholesale and retail), services (like education, business services, health care) the financial sector, and government (schools, and local, state and federal government employees).

State and federal data sources maintain employment data according to a Standard Industrial Classification system. By taking the general profile information and combining it with your own knowledge of local firms, you can estimate where your local workers are employed.

Knowing the employment profile of local businesses is important because it defines job opportunities as well as what skills the community's workforce needs to have.

Describe the industrial profile of your community. Summarize your findings.

On the whole, Coloradans seem to have a good understanding of changes in the economy. A Denver resident concerned about the workforce said — "I think the whole structure of the economy is changing, and not only the structure but the makeup of the workforce." In Grand Junction it was said— "We've gone from an industrial society to an information society... everything is more technical now."

While no one can quite remember the source, Coloradans in and out of the San Luis Valley love to quote the statistic that there are more artists per capita in the Valley than anywhere else in the country. Measuring the contribution of the arts industry to the local economy is tricky, since no census exists to capture it and because many people combine art work with other work. Research on folk artists, combined with mailing lists and estimates by community arts groups, yields at least 500 names of working artists. Artists represent a hidden manufacturing sector almost as large as the officially measured manufacturing industries, which employ fewer than 700 people in the Valley. While the arts represents a potential strength in the valley economy, it has yet to bring adequate income into the region: per capita income in the area was $9,739 in 1986— 35% lower than the statewide average; in 1988, the unemployment rate was 11.2%, twice the national rate and a full five percentage points above the statewide rate.

One community in northwestern Colorado found that their industrial profile had changed in a ten year period— there were considerably more employees in the "services" category. They found that the expansion of a local health care facility to serve the regional market increased employment in the health services both at the facility and with the growth of supporting health service businesses.

2) How has the industrial profile of your community changed?

Look up your community's industrial profile in the *1980 City and County Data Book*. The *Labor Force Review* published by the Colorado Division of Employment and Training is also a good resource. Compare these figures with your most recent profile. Has it changed? Where are the largest percentage changes? Can you suggest some reasons why the changes took place? For example, you might explain a dramatic rise or fall in mining employment because of the opening or closing of a single facility. .

How have these changes effected the skills needed by workers in your community? For example, have employment losses in mining or manufacturing meant an oversupply of skilled equipment operators who need to retrain to find another job? Has growth in the health industry increased the demand for nurses or health technologists?

A truly modern factory will have much different hiring needs from an older style industry — more technicians, more engineers, and line workers who can operate the new high-tech equipment, communicate to all levels and work in teams as well as individuals.

3) Have there been significant changes in the way local employers make products or provide services?

For example, many factories are now investing in new production technologies like robotics or other computer-controlled machinery. Even in the retail and service sectors, the computerization of many management functions requires new skills.

How has new technology affected the skills needed by workers in your community?

4) How have wages changed among major employers?

The Colorado Department of Labor and Employment maintains average wage records by industry for the state. It is useful to look at wage levels by industrial classification to see how wages have changed over time.

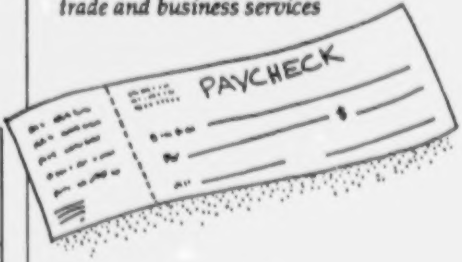
Have wages changed in your community? What are the results of these wage changes? If wages are dropping, will workers be forced to take a second job or several jobs each year? Will there likely be more two-income families? If so, what skills would the new workers have, and where are they likely to find work? Given changes in the community, what support systems are in even greater demand?

QUANTITATIVE INFORMATION (e.g. Wage structure, Use of technology)	**QUALITATIVE INFORMATION (e.g. Peoples feelings about the future, Corporate attitudes about training)**

5) What percentage of employment is in small firms as opposed to larger firms?

Small firms account for the majority of job growth in Colorado. It is a fact that smaller firms don't have the financial resources to invest as much in the development of their workers as larger firms. Since it is important to increase the quality of training and education to achieve a stronger workforce, you'll need to estimate how many workers in your community will have access to learning resources at their workplace.

A 1989 analysis of Colorado's regions showed that jobs have been lost in industries where wages were higher than average — mining, construction, and some manufacturing industries— and gained in industries that have had lower than average wages— retail trade and business services



In eastern Colorado the food processing industry is highly concentrated with larger firms dominating the industry. There are four firms that employ over 100 people, three of these are part of national conglomerates. Although these larger plants are critical to the local economy, they also make the region vulnerable in its dependence on them.

Colorado's workforce has and will continue to be predominantly Anglo. However, the minority workforce will increase 82.3% while the Anglo workforce grows by 40.3%. Anglo males will account for only 37.3% of workforce growth between now and 2010; Anglo females will account for 41% and minority males and females will each account for 14.6% and 12.4% respectively.

The Colorado workforce is aging and will continue to get older into the next decade. This trend reverses our experience from 1970-1980, when the median age of the workforce actually decreased with young workers migrating to the state and Colorado babyboomers entering the workforce. The most dramatic change in the age composition of the workforce between 1988 and 2000 is that workers under 35 drop from 50.3% in 1988 to 40.6% in 2000. By the year 2000, the 55-64 age group will represent one of the fastest growing components of the Colorado workforce.

2) WORKFORCE CHARACTERISTICS

Definition:

Workforce characteristics looks at the qualities and skills of the existing workforce as well as the characteristics and skills that will be needed by future workers. It tries to predict future skill needs based on information from employers and workers as well as from state and national agencies that track what skills and occupations are likely to be necessary in the future.

There are two parts to complete for this factor. First, it is suggested that you answer the seven questions for three groups of people:

ALL WORKERS	WOMEN	MINORITIES

Questions to Address:

1) Who comprises your community's workforce? What percent are men and what percent are women? How many are minorities? What are the projected growth trends?

Data on population are available from the state demographer. He can provide data on a county by county basis as well as make future projections on population growth.

ALL WORKERS	WOMEN	MINORITIES
______________%	______________%	______________%

2) What is the age distribution of the workforce? What percentage of the workforce is in the five age groupings of 16 to 24; 25 to 35; 36 to 50; 51 to 65; over 65?

Data on age distribution is also available from the State demographer's office. It is very important to know age profile so you can determine who will be in the workforce. For example, a high percentage of retirement age workers may suggest that your community could face a labor shortage.

ALL WORKERS	WOMEN	MINORITIES
16 - 24 ______________%	______________%	______________%
25 -35 ______________%	______________%	______________%
36 - 50 ______________%	______________%	______________%
51 -65 ______________%	______________%	______________%
65+ ______________%	______________%	______________%

3) What is the education level of workers in your community?

The U.S. Census or the Colorado Department of Education maintains statistics on the percentage of the population that has less than a high school degree, has graduated from high school, has some college or has graduated from college. This information is available by county or by school district. Since more than half of the new jobs that are expected to be created in the next decade require at least two years of post-secondary education, it is helpful to understand the education level of the workplace.

ALL WORKERS	WOMEN	MINORITIES

4) Is there a literacy problem in your community? How many people are illiterate? What ages are effected most?

Adult illiteracy is often a problem hidden from public view. Grade completion of public schools is used by many states as a measure of literacy. It is projected that, by 1990, there will be approximately 225,000 Coloradans age 25 and over who have not completed the 8th grade, and 455,000 who have not graduated from high school.

Try to characterize the extent of the literacy problem in your community.

ALL WORKERS	WOMEN	MINORITIES
______________ % Age ______________	______________ % Age ______________	______________ % Age ______________

5) What kinds of occupations do community workers have?

Different occupations require different skills. By profiling the workforce you can determine where your community's skill strengths and weaknesses are. Is your local skill profile defined by ranchers? By the tourist industry? By mine workers? By skilled machinists? What occupations do women and minorities hold? *County Business Patterns* available from the Bureau of Census as well as Colorado's *Labor Force Review* are two good sources for this data.

Demographic and workforce projections suggest that women and minorities will comprise a far larger percentage of the future labor force. Recognize how these broader trends are showing up in your local community. Think especially about the skill level of current workers and how they might move into new growth jobs in the future.

The basic literacy of manufacturing workers is a problem in many places in Colorado. One personnel manager estimates that the lack of literacy skills is a problem for about 40% of the plant's shop workers. As shop floor work gets more sophisticated, particularly with computerization, the need to read increases.

More than 90 percent of new jobs across the country have been in managerial, administrative and sales occupations.

According to research compiled by Jobs for Colorado's Future:

- *Colorado has a higher percentage of professionals and managers — 28% of the workforce versus 25% in the U.S.*
- *Colorado has a lower percentage of blue collar workers — 22% of Colorado workers versus 34% in the U.S.*
- *Colorado has a history of importing highly skilled workers. There is a marked difference in the education level of those that have moved here versus those that grew up here.*

A group of Denver educators described how well-educated workers have taken jobs for which they were over qualified. So many people were in the same situation that it had a ripple effect across the whole labor market. Workers who were "bid out" of their jobs bumped others below them, and so on down the ladder until the least educated workers were left unemployed.

What percent of workers are:

	ALL WORKERS	WOMEN	MINORITIES
managers			
professionals			
technicians			
machine operators			
clerical			
sales			
skilled craft			
unskilled			

How is the occupational structure of female workers or minority group workers any different?

6) Is there a good match between the skill levels of workers and the jobs they actually hold? Are workers generally underemployed or overemployed?

Are workers well paid for their skills? Are there a lot of well-trained, college graduates or workers with a lot of experience who are currently working at jobs that are "beneath them"? Is underemployment confined to a specific segment of the workforce?

ALL WORKERS	WOMEN	MINORITIES
$	$	$

7) Does the workforce face any particular obstacles to learning?

A Jobs for Colorado survey of Colorado workers showed that women face significantly more obstacles than men in taking advantage of worker-related learning resources. Fewer employers paid the training costs for women than men; women reported having less time or energy for training that was away from the workplace, they were in greater need of child care and transportation than men. These obstacles can become of paramount importance if your community is employing more and more women.

ALL WORKERS	WOMEN	MINORITIES

What are the obstacles to obtaining further education and training in your community?

CONVENIENCE
AVAILABILITY
CHILD CARE
NO TIME OR ENERGY
COSTS TOO MUCH
DON'T KNOW WHAT TO CHOOSE
NO TRANSPORTATION
OTHER

SUMMARY OF FINDINGS -

The questions you just answered about the local workforce should help you clarify your own thoughts about potential problems the workforce will face based on available information.

Workforce characteristics can either serve to attract or deter firms from developing and locating in your community. A strong work ethic is often an attraction, while low education levels can sometimes serve as a detractor. Some characteristics such as having a core of highly skilled machine operators might allow a new business to grow in your community. Some firms are likely to grow or locate in your community because of a highly specialized educational institution. Think about the fit between firms that are expected to grow and the skills that the existing workforce really has. The *Industrial Outlook* available from the U.S. Department of Commerce's regional office is a good source to check as you complete this analysis.

Summarize your conclusions from the Step 2 analysis.

In a Jobs for Colorado statewide survey of employees, workers cited the following obstacles to education and training:

- *64% said that courses were not offered at a convenient time or place*
- *51% said it cost too much*
- *30% don't know what is available*
- *18% lack child care*
- *16% lack transportation*
- *41% of the women reported not having enough time or energy while only 28% of the men reported the same.*

One educator from a Colorado ski town suggested changing the local school year calendar so that the winter quarter would be the official off-quarter. This would assist the ski industry in hiring students. Students could then attend class in the summer, when tourism places less of a workforce demand on the local economy.

The Optional Spreadsheet Analysis:

Use the spreadsheet on the following page to summarize your findings. Complete one spreadsheet for The Optional Spreadsheet Analysis: each group of workers you wish to look at. It is suggested that you again analyze three groups of people—all workers, women and minorities. There are five age groupings on the spreadsheet. Your results should be recorded in each cell. For example, in the column labeled "ages 36-50" and the row marked "size", you need to indicate how many people in your community are between the ages of 36 and 50. By filling in each of the cells, comparisons can be made. For example, a high growth rate among minority workers between ages 25 and 35 suggests that a larger percentage of minorities will be in the community workforce by the year 2000. If the education level of minority workers between the ages of 25 and 35 is lower than that of all workers, and if this group is growing at a faster rate than the entire workforce, you may conclude that additional resources should be targeted to the unique learning needs of this group.

When you complete each cell, make as many comparisons between cells as you can. Then, review the information you gathered on jobs, industries and wages. Based on your workforce of today, what kind of businesses are likely to be attracted to the area? What kind of new enterprises can be encouraged to develop in your community? Are these the kind of businesses that your community wants?

Poultry processing is an industry that might be targeted for recruitment in eastern Colorado. It is a potential market niche that expands upon the base of food processing already in existence in eastern Colorado.

- *Poultry consumption has increased as red meat has decreased nationwide*
- *The region is close to feed sources*
- *Eastern Colorado can compete favorably through transportation cost savings alone*
- *Niches for hormone free and free range poultry are growing*

All Workers **Women** **Minorities**

	Ages 16 - 24	Ages 25 - 35	Ages 36 - 50	Ages 51 - 65	Ages 65+
Size					
Growth					
Education Level					
Basic Skills & Literacy					
Income Level					
Work Readiness					

According to the American Society for Training and Development in a report for the U.S. Department of Labor, Employment and Training, the new basic skills needed in the workplace include:

- ***Learning to learn***
- ***Competence in reading, writing and computation***
- ***Communication: oral and listening skills***
- ***Problem-solving***
- ***Creative thinking***
- ***Personal management skills: Self-esteem, motivation/goal setting, employability/career development***
- ***Group effectiveness skills: Interpersonal, teamwork, negotiation***
- ***Influence skills: Organizational effectiveness and leadership***

The Colorado Pilot Preschool Program serves 2,000 "at risk" four year olds. Passed and funded by the Colorado General Assembly as part of the School Finance Act of 1988, the Colorado Department of Education worked with 34 local school districts in 1988 by providing quality preschool programs to designated students. The programs include strong parental involvement, extended daycare services for working parents and special support for parents enrolled in self sufficiency efforts.

3) EDUCATION AND TRAINING RESOURCES

Definition:

Education and Training Resources looks at how, where and when workers learn what is needed to be employed. While this factor includes the most obvious source of education — K-12 schooling, it involves much more than that. 75% of the employees that will be working in the year 2000 are already on the job. Changes in the K-12 school system are no longer enough to ensure a skilled workforce. For a community's workforce to be fully competitive and stay competitive, a full range of education and training resources must be made available to meet the needs of workers throughout their lifetimes. This includes the type of education and training one might need to change jobs. It considers how people successfully apply skills and knowledge learned through experience. It is concerned with how and where people will learn the new basic skills. Preparation for work doesn't include just acquiring enough basic skills to get by, or having technical training to perform a specific job well. Instead, workers need competencies across a wide variety of skills. Workers have different learning needs at different times of their lives. Ideally, community leaders should strive to have a learning system in place, beginning in early childhood and continuing throughout their lives, that allows workers to meet these different needs.

Each community needs to look at its workforce and economic profile to make sure that local education and training resources can meet demands placed upon all workers due to the rapid change in the workplace and the skills needed to stay competitive.

Questions to Address:

1) What kinds of preschool opportunities are available in your town? Is there a wide variety of opportunities available for people of all incomes?

Early preschool education provides children with the fundamentals of good learning. Research has shown that these children are more productive as workers and citizens.

2) What is your community's drop out rate? Who is dropping out of school? What percentage of the school age population is dropping out? Is there early identification of youth who are "at-risk"? (Those at risk include both the educationally disadvantaged as well as gifted children.) **Is there a school-to-work transition program that gives the young worker job skills while maintaining his/her interest in finishing school?**

This information is available from the Colorado Department of Education or your local school district. Check to see if the drop out rate has changed over time and what kind of jobs drop-outs tend to get. Local school districts can information about drop out prevention programs and how they are working.

3) Do area residents have a full range of choices for post-secondary education? Does your community have access to institutions of higher education? Is there a community college or four year college that serves the learning needs of your community well? Is there a local college that is willing to tailor curriculum to fit community need?

This information is easily obtained from your local school district office.

4) What kind of training is offered by local employers? Describe who is trained at their place of work and what kind of on-the-job training is offered. How much are firms investing in skill development? What resources or institutions are used to train workers? What happens to workers who need better skills to remain productive? Are training needs of businesses well served by local colleges? Estimate what percentage of the workforce has or will have education and training available at their place of work.

Talking with personnel and human resource managers in local firms is a good way to understand how well firms invest in the development of their workers. Typically, very little formal training goes to anybody but the managers and professionals in larger firms. Smaller firms are hard pressed to offer training on any sort of regular basis. Yet, work-related training is key to staying competitive.

The Center in Leadville is a model childcare and preschool education system that grew out of the city's severe economic downturn as they were forced to shift from mining to tourism. Recognizing that early childhood education can provide children with a head start, and that parents working in the tourism industry have childcare needs at all hours of the day, Superintendent Jim McCabe and his staff started a preschool for all children 2 1/2 to 5 years old with a language based curriculum and a day care program that runs from 5:30 am to 6:30 pm. In addition to preschool education the center offers prenatal and parenting classes, adult literacy classes, speech therapy for those in need, and a curriculum designed to bring out the best in a child at his or her own pace. The Center operates 365 days a year and provides the workforce with affordable childcare through its sliding scale tuition program.

According to an employers survey conducted by Talmey Research in Boulder for Jobs for Colorado's Future:

- *80% of Colorado employees surveyed in 1989 wanted more formal on-the-job training*
- *74% of Colorado employees believe it is worth being paid a little less if their job lets them learn new things*

Ted Schwinden, Governor of Montana, addressed the problems and opportunities of our aging school facilities in the 1987 National Governors' Association study — ***Time for Results: the Governors' 1991 Report on Education.*** *The governor noted that in the coming decades we will replace most of our school facilities and asked "Will we design what we have now or design something better?" The U.S. has school buildings that represent an enormous investment. Yet too often they are open only a few hours a day, five days a week, nine months a year and only for students aged 5-18. The Governors' Task Force on School facilities recommended change: use schools to satisfy broader community needs, with the facilities open more hours every day for 12 months a year. This concept — often referred to as community schools — recognizes that learning is a life long process, a continuous spectrum. It is a process of living, not just preparing for future living.*

5) Where can an individual worker go to get information on education and training opportunities? How can a worker in your community tell if he/she has sufficient reading, writing or technical skills to be well-employed? Is there an adequate system of career information or guidance that can suggest realistic outcomes of additional education or training? How can people interested in changing careers learn how to apply their skills in a new field?

The answer to this question will require personal reconnaissance. Career counselors at the local school district and human resource specialists often employed through the county Social Services Department can assist you in getting the information you need.

6) How do the educational institutions in your community relate to each other? How do they relate to training institutions? Do they work together as a system?

Again, there is no one place to find the answer to this question. Talking to school superintendents, local college presidents, human resource specialists and training consultants can provide you with some understanding of how education and training resources are used and about the range of opportunities that are available. To conduct your own analysis look to see how educational resources complement each other, where there are training gaps and whether or not a true system exists.

The following questions will help you gauge how effectively your local education and training institutions act as a system.

- **Is there transferability of credits across institutions?**

- **Are there learning opportunities for all age groups?**

- **Is educational information available at a single place, or would an interested worker have to go to three or four places for information about courses and degree programs?**

- **Is there a way of documenting skills that people learn on-the-job that have value in the labor market?**

- **Is there a clear understanding of educational goals among education and training institutions?**

STEP # 3 WORKSHEET-
HOW TO COLLECT NEEDED INFORMATION

Decide how to collect information about the workforce

The following questions will help you determine what resources are available for and who might help you gather the information you need.

1) Consider who is available to help gather the information that will be needed to assess the strengths and weaknesses of the workforce.

- Is there staff time available from the local planning office, community college or social services department? ______________________________

- Is there an active citizens group, planning or economic development commission that can make the necessary time commitment to collect the needed information? ______________________________

- Are there students from a local college that can collect and analyze the information with proper supervision? ______________________________

- Would it be worth hiring a professional consultant for specific tasks or the entire data gathering processes? ______________________________

- Other sources ______________________________

____

2) Look for information and studies that already exist. For example, has the local economic development organization in your area conducted a targeted industry study, economic market analysis or strategic plan that lets your community know where to spend its limited economic development dollars? Inventory all potential sources.

- What information and studies have been conducted by local and county governments? ______________________________

- Has the Regional Council of Governments conducted any studies on workforce characteristics and needs? ______________________________

- Has the local Job Services Training Office or Private Industry Council conducted any special employer surveys? ______________________________

- Has someone reviewed all the findings from the Jobs for Colorado's Future program? (refer to the appendix for a list of studies completed for Jobs for Colorado's Future) ______________________________

- Other ______________________________

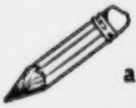
____

A survey of Colorado workers helped one southern Colorado community understand that most workers want more training but feel there are substantial obstacles.

- *43% of surveyed employees believe they need more training just to keep the jobs they have today.*
- *28% of surveyed employees believe they need help in reading and math to do their present job better.*

During a regional workshop in Southeastern Colorado, residents reported an industry resistance to public/private partnerships, inequitable industry participation, not enough alternative education programs for adults who are employed during the day and the need for expanded use of "distance learning".

"To gather needed information about the workforce we talked to employers in the region. We found to our surprise that the meatpacking and animal feed production are among the least labor intensive industries in our region. We learned that nonunionized vegetable packing and grain production pays barely above minimum wage, while the union meat packers earn about $7.00 an hour and union sugar plant workers average over $10.00 an hour"...A resident from Northeastern Colorado



3) Some of the best information needed to develop a program to improve the quality of your local workforce is available from community residents.

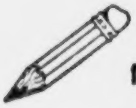
People that live in your community can often tell you more about the characteristics of the workforce than any statistics you might gather. Most local employers can tell you what kind of skills are lacking. Residents often know first hand about the strengths and weaknesses of the local school system.

Based on these questions, how do you plan on gathering the necessary information? What resources are available?

STEP # 4 WORKSHEET- COMMUNITY WORKFORCE ISSUES

Determine critical workforce issues by comparing your assumptions against the information you gathered.

What are the real workforce issues in your community? This is perhaps the most important step in the entire workbook. With a clear understanding of the problem, community residents can begin to discuss potential solutions. This worksheet helps define your community's workforce issues.



To start, review Worksheets 1-3. Then, answer the following questions.

- Have you changed your mind about what the workforce issues are in your community based on what you've learned so far?

yes *no*

- How have your assumptions and beliefs changed? Be as specific as possible.

- Did you identify particular workforce needs? For example, did you find that employees want more on-the-job training? Did you find that employees wanted courses to upgrade their skills offered at a more convenient time?

yes *no*

If yes, list those needs ____

____

____

- Did you find that employers and workers had the same view of what is needed?

yes *no*

- If no, how did their views differ?

- What skills have you found to be most needed in your community?

- Are there community resources available to meet those skill needs?

yes *no*

- What specific education and training programs are available to meet the needs of the workforce?

- Do you see new programs being initiated to meet needs identified by employers and workers?

yes *no*

- If yes, what are these programs and who is planning on providing them?

- Education and training programs are needed most for which of the following groups? *(check all that apply)*

☐ **preschool**
☐ **K-12**
☐ **Emerging Workers**
☐ **Those Just Entering the Workforce**
☐ **Adults in Transition from one job to another**
☐ **Adult Learners**
☐ **the Functionally Illiterate**
☐ **Workers who need on-the-job training**
☐ **the Economically disadvantaged**
☐ **women**
☐ **minorities**
☐ **Other**____________________

What kind of education and training programs are most needed?

38

A 1989 Jobs for Colorado's Future survey indicates that Colorado employers want their employees to have:

- *better reading comprehension*
- *improved math aptitude*
- *communication skills*
- *computer skills*

"In our region we have found that there are education and training opportunities for K-12 and adults seeking more education. The JTPA offices, the Chamber of Commerce, Colorado First, the Small Business Development Center community adult learning programs and customized training offered by the community college offers many options. What we lack is easy access to four-year degree institutions."..

a concerned human resource specialist in Northwestern Colorado

"Once we understood that a critical workforce issue facing our community was that high school students had no idea what they needed to do to prepare for a job, get a job or keep a job, we could then develop a school-to-work transition program through our high school counseling program to address this issue."....

Denver metro area educator

THE THREE MISMATCHES
To meet its promise, Colorado must resolve three mismatches between what Colorado needs for a competitive economy and what Colorado currently has.

***The Regional Mismatch:** The State needs to address the growing economic disparities between Colorado's urban and rural regions. Rural regions are losing jobs and people. The disparity between Colorado's rural regions and the Front Range region is so great that in 1986, the average earnings in the Front Range were 34% higher than the average in the rest of the state.*

***The Skills Mismatch:** Employers told Jobs for Colorado's Future that many of today's workers do not have the skills needed, and workers told Jobs for Colorado's Future that they often cannot get the training they need.*

***The Learning System Mismatch:** To assure Colorado the quality and quantity of workers necessary for the future, Colorado must have an education system where every Coloradan can get the training he/she needs. Residents complain that resources are not always allocated according to need. Many of Colorado's future workers— often women and minorities— do not have the opportunities to develop the skills they need for work.*

DESIRED OUTCOME OF PART 1:

Communities that are successfully undertaking projects to improve their workforce can clearly state what they want to accomplish. They have a good idea of what they are trying to do and who will benefit.

Having completed Part 1 of this workbook you should now have a clear idea of what you are trying to accomplish in your own community. If anyone were to ask, you should be able to clearly state why you're undertaking an overall workforce improvement program. Most importantly, you will be able to focus on those workforce issues or problem areas that need the most attention.

SUMMARIZE CRITICAL COMMUNITY WORKFORCE ISSUES

Having answered these questions, it's important to collect your thoughts and summarize your findings before you go on to the next step. List the critical community workforce issues that you learned about from collecting new information and from checking commonly held assumptions.
What are the workforce issues or problems that require the most attention? State the problem or issue as clearly as you can. List them in order of importance. Use an additional sheet if necessary

1. ______________________________

____

____

2. ______________________________

____

____

3. ______________________________

____

____

4. ______________________________

____

____

5. ______________________________

____

____

PART 2:
SETTING PRIORITIES

Part 2 of this workbook helps you decide what projects to undertake to address the critical workforce issues and problem areas identified in Part 1. It will help you select projects that can best improve the competitiveness of your workforce. There are four steps in this section, starting with Step # 5.

They are:
Step 5: *Develop a vision for the future that describes the ideal future workforce*
Step 6: *Based on your vision of the future, determine your goals for the program*
Step 7: *Generate a list of project ideas to address your critical workforce issues*
Step 8: *Analyze what projects are likely to be successful*

After you complete these tasks, there is a summary worksheet for collecting your thoughts and summarizing your priority projects. These projects will be the foundation of your overall action plan.

Step 5: Develop a vision for the future

Keeping in mind the critical workforce issues developed in Part 1, step back and look at your community. Specify the type of educational and training opportunities you wish to have in your community.

In the Town of Basalt, there are three things that will help shape the area's economy over the next five years. These three things are:

1) The new highway bypass which will effect retail businesses that now benefit from drive by traffic;
2) The growth of the Aspen economy with its dependence on service oriented jobs that do not pay well
3) The high price of worker housing in Aspen which will mean more and more workers will be looking for less expensive housing in Basalt."

In most of Colorado's ski towns, residents fear that there is a loss of middle class job opportunities. Their vision of the future includes employment opportunities for all categories of workers and at different pay scales. All jobs would pay enough so that employees could afford housing near their jobs.

"There's enough good people here, some just need a little retraining. If it's one thing the west always prided itself on..we know how to do things" Grand Junction resident

In Larimer and Weld counties, residents would rather see a proliferation of small to medium size firms rather than one or two large firms.

The Skills Training for Environmental Programs (STEP) is an innovative training program developed by the Governor's Job Training Office. Recognizing that new skills will be needed for the explosive growth anticipated in the hazardous waste industry in Colorado, this program is intending to train unemployed Coloradans to fill the seven thousand new jobs anticipated by 1990.

In order to establish a sound direction for your action plan, you need to develop a vision of what you want the future to be like. What do you want your workforce to be? The desire to change and move toward achieving a preferred future can influence what your community's workforce will be. Communities across the country are spending many months in community-wide workshops determining what they want their communities to be. Step 5 is a quick exercise to get you to start thinking about your vision of the future. Once you have developed this future vision you can then translate it into goal statements that you can always refer back to.

- **What three things will shape your community's economy over the next five years?** Think about events, activities or outside economic forces.

1. ______________________________

2. ______________________________

3. ______________________________

- **What are your hopes for your economy? What characteristics would best describe the kinds of job opportunities that would be available to you and other residents of the community?** Think about what would work best for you. Be as specific as you can. You might wish to reference some of the data sources listed in the appendix. The *Industrial Outlook* and the *Occupational Projections* available from the Colorado Division of Employment and Training are two good sources to start with.

- What kind of wage structure do you want in the community?

____

____

- Does your community want small to medium size businesses, branch plants, large corporations or a mixture of these?

____

- What kind of benefits and innovations would you like to see in the workplace (e.g. flexible hours, extended vacation time, child care benefits, health care benefits, transportation alternatives, work at home option)

- If residents had new or better skills, what kinds of businesses would you like to grow locally or attract ?

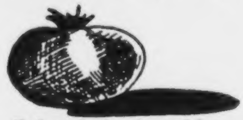
- **What education and training opportunities will exist in the community in your vision of the future?** This is different than opportunities that might exist at your place of work. Think about the kinds of educational programs you or your children would really like to participate in.

- If you were "ruler of your community" and had no legal, political or financial constraints, what three actions would you take to improve workforce skills?

1. ______________________________
2. ______________________________
3. ______________________________

IN THREE SENTENCES OR LESS, SUMMARIZE YOUR FUTURE IDEAL WORKFORCE VISION.

Farming and food processing currently provide 31% of the employment in the 16 counties that comprise Colorado's Eastern Plains. Despite an often grim outlook locally, the skills and labor structure of this area does provide for additional growth opportunities in food processing. Consumers are eating less beef and more chicken due to concerns about health. Low-fat beef and natural beef are becoming more popular and are able to command premium prices. Large conglomomerates are looking for a market share of these "speciality" markets. Opportunities that capitalize on the skills and structure of the workforce exist. For example, there are a number of vacant food processing plants in the region that could be renovated for new products. New crops in this region and the San Luis valley provide opportunities to investigate local food processing.



Boulder, Colorado is viewed by many business people as a special place. Its proximity to a wide variety of recreational opportunities coupled with its reputation of being an "entrepreneurial" community attracts more bright young entrepreneurs. New start-up businesses providing recreational equipment and high-tech computer software firms tend to locate in Boulder in part because it has a reputation for being able to attract and keep bright, innovative, self-starters.

"What we really need is a systemized effort... between the public and private sectors, to go in a uniform manner to get things solved"...

Denver resident

Lewis and Clark State College in Lewiston, Idaho has a program to train and retrain workers displaced from the closure of a local pulp and paper mill plant. The program is a community service program that assists people seeking career change or further training and education to develop the skills basic to success. The program helps people review and refresh skills in mathematics and English, develop basic computer skills, learn how to prepare for career change and how to be successful in making the change.

An example of a state workforce goal is to encourage new learning standards in our schools and encourage the teaching of new "basic skills". These include: learning to learn; competence in reading, writing and computation, communication skills, problem-solving, creative thinking, personal management skills and group effectiveness skills.

Step 6: Determine your goals for the program

Clearly written goals can direct your efforts. They will help you develop successful projects. Since you are trying to achieve your ideal future described above, your goals will most likely focus on educational and training initiatives. These initiatives will serve to improve the skills of the workforce. This in turn will help your community develop or attract businesses that provide the good jobs and the type of work environment you envision.

To start, consider your critical workforce issues that you developed in Part 1 of this workbook. Then, review your vision of the future. This step involves merging the needs created by today's workforce with your desires for the future. The goals you develop in this step should be consistent with both your critical workforce issues and your vision of the future. Ideally, you should develop goals to:

1) respond to each critical workforce issue; and
2) help you achieve your vision of the future.

In developing goals for your overall workforce improvement program, there are some guidelines that will help you. These guidelines will help you to consciously decide how to address the critical workforce issues in your community. Many of these guidelines will require you to take a hard look at commonly held community values. They will help you look constructively at your underlying beliefs about how you take meaningful action in your community.

GUIDELINES TO HELP YOU WRITE WORKFORCE IMPROVEMENT GOALS

1) DETERMINE WHERE YOU WANT TO FALL ON THE CONTINUUM OF REINFORCING POSITIVE TRENDS THAT ARE OCCURRING IN THE WORKFORCE OR CORRECTING SKILL INADEQUACIES.

Some communities may feel that certain skill inadequacies such as adult illiteracy are so severe that it is best to concentrate most of their efforts to correct these. For example, they might decide to develop a program that is only composed of projects that address skill inadequacies in their community — such as illiteracy and kids who might be "at-risk". On the other hand, a community such as Boulder, Colorado might decide that while their community faces certain skill inadequacies, they prefer to improve the quality of their workforce by concentrating on the positive trends. Realizing that their community is comprised of entrepreneurs, Boulder might institute projects such as a business assistance network to provide mutual support for small businesses and specialized training courses through the University to increase the business person's on-the-job work efficiency.

2) REALIZE THAT SOME PROJECTS CAN BE UNDERTAKEN LOCALLY WHILE OTHERS WILL REQUIRE COORDINATION WITH STATEWIDE ORGANIZATIONS.

For some projects, locally supported and initiated actions are sufficient to achieve success. Other projects may require state assistance, especially if they require additional funding or manpower assistance that is unavailable locally.

3) DETERMINE HOW EACH WORKFORCE IMPROVEMENT PROJECT COMPLEMENTS AND SUPPORTS YOUR COMMUNITY'S ECONOMIC DEVELOPMENT EFFORTS.

As you develop goals for your overall workforce improvement program, you need to decide how your efforts will relate to your community's economic development efforts. Employment characteristics are at the top of the list of factors considered by companies thinking about moving to a new location. In fact, the first six locational factors cited in a comprehensive study of "what companies look for in a headquarters location", four are labor-related. Availability of a skilled/educated workforce is ranked number two out of a possible ten, far above "incentives" (refer to table).

The Ones That Moved

What Companies Look For in a Headquarters Location

Location Influences	Rank And Importance
• Good labor-relations climate (e.g. few incidents of work stoppage)	1
• Low rate of unionization in the area	1
• Availability of skilled/educated work force	2
•Tax rates on businessess	2
• Existence of strong work ethic	3
• Good transportation facilities to business travel	3
• Housing availability for employees	4
• Quality of utilities	4
• Community safety	4
• Quality college/university nearby	4
• Tax rates on individuals	5
• Recreational opportunities and parks	5
• First rate scientific community in the area	5
• Relatively low cost of living	6
• In or suburb of a major population center	6
• Favorable ecological factors	6
• "Can-do" spirit apparent on the part of community leaders	6
• Lack of "red tape" by state and local government	6
• Availability of water and waste system	7
• $ Incentives (industrial-revenue bonds, enterprise zones, etc.)	7
• Quality primary/secondary school system	8
• Rich cultural environment (orchestras, museums, etc.)	8
• Progressive banking institutions	8
• Relatively low wage/salary levels	8
• Proximity to the company's major markets	8
• Local state/government programs, other than taxes	8
• Good transportation facilities for moving goods	9
• Moderate-to-warm climate	9
• Topographical factors	9
• Proximity to needed raw materials and natural resources	10
• Plentiful venture capital	10

In Colorado communities, economic development initiatives are carried out by a variety of different agencies. It's helpful to think about who is involved in economic development and therefore interested in the workforce. In some cities and towns more than one agency is responsible for economic development. These may include: the city manager's office, a city's community development or planning office, the local or regional Chamber of Commerce, regional non-profit organizations that administer the area's enterprise zone, Small Business Assistance Centers housed at fourteen community colleges throughout the state, economic development agencies occurring at state, regional and local levels, the regional Council of Government and the area's Private Industry Council.

The state sponsored Colorado First program exemplifies a particularly beneficial relationship between a new or growing business and the local community college. To support product and line expansion, Front Range Community College with the Adams County Employment Center designed and offered training to employees of Gerico-Takata, the producers of infant car seats, Snugli products and Gerry baby products. With the support provided by the college, the infant car seat line, previously manufactured in Japan, is now manufactured in Thorton, Colorado.

In 1987, Meridan, Mississippi developed a strategic plan to meet the future needs of the county. By first writing detailed goals that "charted a course to a brighter future", a 50 member council was able to outline specific measures of success and concrete actions to initiate. For example one goal was: "to have one of the best overall education systems in the United States". Their measure of success or benchmark is to serve 600 adults in GED education annually through 1995.

The simplest way to start writing your goal statements might be to develop a goal for each characteristic that describes your ideal future. For example, if your ideal future includes a workforce with at least a high school education, your goal might be to develop a school-to-work transition program aimed at keeping potential drop-outs in school. Or, you might wish to develop innovative preschool and early education programs which dramatically increase a child's chances of graduating from high school.

Write goal statements for each of the critical workforce issues you identified in Part 1.

Step 7: Generate a list of project ideas that meet your goals

This step will help to focus your efforts to improve and strengthen the local workforce. With overall workforce improvement goals in mind, you can develop a list of project ideas that will address your critical workforce issues. There are three tasks involved.

Task 1: This is a brainstorming exercise. List as many project ideas as you can think of that will help to improve your local workforce. Don't worry at this point if the idea is too expensive or may not be feasible.

Task 2: Once you have listed your ideas go back over the previous steps to determine what goal(s) and workforce issue(s) the project idea addresses. Note the workforce issue(s) and goal(s) each project idea addresses in the space provided.

Task 3: Review your completed list. If there are ideas that don't directly respond to a workforce issue(s) and goal(s), cross that idea off the list.

PROJECT IDEA		WORKFORCE ISSUE and GOALS ADDRESSED
1.	➨	
2.	➨	
3.	➨	
4.	➨	

Step 8: Determine what projects are likely to be successful

It is important to concentrate your efforts on those projects that are likely to be successful from the outset.

Staff and volunteer time is always limited, so it's important to determine which projects will yield the best results. It is best to make this determination before spending time to develop your overall workforce improvement program. This step will help you make that determination.

GUIDELINES FOR PROJECT SUCCESS

There are six primary considerations to think about:

1) Make sure your projects will result in meaningful changes in the workforce. Think about what needs to happen for you to feel like you've improved the quality of the workforce in your community. One way to measure your progress is to establish concrete benchmarks by which you can measure your efforts.

List measures of success or benchmarks that will signify substantial progress in your community. (e.g., the drop out rate will be reduced by 10%; enrollment in adult learning classes will increase 20%)

1. ________________________________

2. ________________________________

3. ________________________________

4. ________________________________

5. ________________________________

EXAMPLE- GRENADA, COLORADO

- *project idea*
- *workforce issue and goal addressed*

***project idea #1**-use paraprofessionals to provide basic GED instruction and education to adults in their home who never finished high school*

▼

***workforce issue and goal addressed**- workforce issue- functional illiteracy; goal- to reduce the illiteracy rate by 10% by the year 2000*

***project idea #2**-institute a leadership development program for young agriculturists while allowing them to continue to manage their farm or business operations*

▼

***workforce issue and goal addressed**-workforce issue- young people need alternatives so that they won't want to leave the family farm, farmers complain that they need intellectual stimulation; goal-to develop programs that extend the networks and business possibilities in agribusiness.*

> *" If we could somehow institute a coordinating board or some sort of process that would review all the new initiatives that are being developed to address workforce issues and identify those that are likely to be most successful, I would feel that my time and efforts to make the workforce more competitive had resulted in some effective action." ...*
>
> *Jobs for Colorado's Future staff person*

The Teen Parent Education Network (TPEN) is a successful program that addresses the needs of Denver County's pregnant and parenting teens and their infants. As a first step the need was recognized and publicized—"if present trends continue, 40% of today's 14 year old teen age girls will be pregnant at least once before they reach the age of 20". The resources were determined to be available and there was an organization ready to spearhead the effort. Under the auspices of Human Services, Inc and with support from six Colorado foundations, the program provides education, counseling and support services that enable teens to continue their academic studies, deliver healthy babies, parent effectively and at the same time to mature as productive and responsible members of the Denver workforce. Project sponsors realized that the project would take many years. Initiated in 1984, the program has been in operation for just over 5 years.

"To improve the quality of our workforce we established measurable standards that we wanted to meet by a certain date. Since K-12 education was a major concern in our community, our measure of success was that we wanted to have a high school graduation rate in excess of 75% by the year 2000. Another benchmark we set for ourselves was to have 75% of the students above the 50th percentile nationally on standardized tests."...

Work Force Improvemnt Task force member, Meridian, Mississippi

2) Limit downside risks.

Think about potential pitfalls or liabilities that will make it difficult to implement your workforce improvement projects before you start.

Will the project cause political controversy?

yes *no* *don't know*

Will starting on this project make it difficult to initiate other projects to improve your community's workforce?

yes *no* *don't know*

If yes, which ones? ______________________________

Will the project negatively effect other community efforts?

yes *no* *don't know*

If yes, which ones? ______________________________

List other potential pitfalls or liabilities that will make it difficult to implement this project.

3) Select those projects that people in the community will be interested in.

It's important to move ahead with those projects that people are truly concerned about. Workforce issues can only be successfully addressed if people from both the public and private sectors will be committed to working on developing solutions to the problem.

Which projects do you think people will be most interested in?

4) Move ahead with those projects that are most likely to have resources dedicated to them.

Successfully addressing the critical workforce issues in your community takes time and money. You need to assess the likelihood of resources being dedicated to each potential project. While it is often possible to find resources for the most pressing community problems, those that are not yet at a "crisis point" may not get needed resources. If it is unlikely at this point in time for resources to be provided, it is often best to concentrate on those workforce improvement projects that are likely to receive the time and money.

List those projects that are likely to have resources dedicated to them. Resources can include: volunteer time, staff assistance, money, capital assets such as office space and equipment,and corporate support.

-
-
-
-
-

5) Select those projects that can be addressed immediately because certain "never to be repeated again" events provide a timely opportunity to get something done.

There may be a particular opportunity that might allow you to successfully initiate a particular project. By moving ahead with this project first, you can quickly build a track record of success.

What workforce improvement projects are most timely to address now?

6) Choose those projects that have the largest number of "stakeholders"- people that have a vested interest.

When there are more people with an interest in seeing that a particular project is implemented, it is easier to find needed resources.

List those workforce improvement projects with the largest number of stakeholders.

"In the San Luis Valley, we have a large group of working age unemployed. The younger trained workforce tends to leave the region to find better work opportunities. These factors contribute to our local employers hesitancy to train younger people. They are afraid their employees will leave for larger cities and greater opportunities"...

Southern Colorado Workshop Participant

"In Northwest Colorado, our residents are concerned that the growth in the tourist industry will lead to lower wages and a reduced quality of life. We have seen how the lower wages make it difficult for employees to afford housing. We want to diversify our economy since we believe more growth in tourism may increase the split between the haves and have nots in our region, strain the social system and create a workforce with a bad work ethic."...

Northwest Regional Workshop participant

"The region as a whole is in concurrence on several issues. We believe that the education system in place is good. Rather than overhauling the system, we would like to add to what is already here with more vocational opportunities and better skills and literacy screening. We'd like to move toward a system that can provide continual learning opportunities but there is virtually no agreement on how to go about doing this."

Northwest Regional workshop participant

Adult Literacy has recently been recognized as a critical issue for Colorado's economic future. A new Colorado Adult Literacy Commission has just been formed to tackle the issue at the state level.

Responding to the issue of migrant youth not receiving the education and career counseling assistance they need to get jobs in their communities, the Northern Maine Vocational Technical Institute in cooperation with Aroostook County Action Program developed a six week program to provide vocational education and counseling for 125 migrant students in grades 9-12 each summer. Classroom instruction and work experience is offered in: carpentry, canoe building, sheet metal fabrication, quantity cooking, auto body repair, energy conservation, electrical wiring, drafting/surveying and computer technology. Students often work on real projects that can benefit the community. They have built additional classroom space for a local school, constructed two 20 foot motoring canoes for the State of Maine Forest Service and constructed a satellite receiving station for a senior citizen complex in the Town of Easton, Maine.

DESIRED OUTCOME OF PART 2:

There are two distinct outcomes of Part 2.

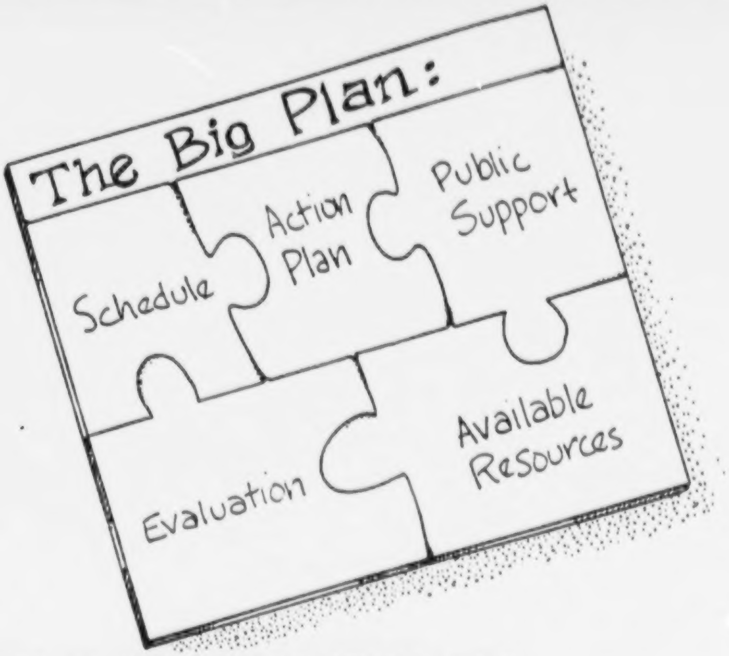
1) You should have in place clearly written goals that will guide your efforts. You should always refer back to these goals to see if you are worrying about the right workforce issues. You may have gotten sidetracked. Or, you might find yourself addressing a workforce issue that you know, based on early information gathering, is not a big problem in your community.

2) You should also now have a list of projects that you believe will help people in your community successfully address critical workforce issues. Each project should result in measurable benefits and minimize potential risks and pitfalls. The projects should be of interest to citizens in the community and have the potential of having resources dedicated to them. If there are projects that can benefit from certain one time events, these should be tackled first.

SUMMARY WORKSHEET

Based on completing the worksheets in Part 2 and your review of the guidelines, select projects that you wish to undertake as part of your overall program. Summarize these below. Next to each project indicate how the project will improve the quality of your local workforce. Remember, these projects will become the foundation of your action plan.

PROJECT	HOW THE PROJECT WILL IMPROVE THE QUALITY OF OUR WORKFORCE



PART 3: DEVELOPING AN ACTION PLAN

This last section could easily be called "putting it all together". Having decided what projects you want to undertake, you now will decide how to undertake these projects. You will develop a work plan for each project. Together these projects will comprise your overall workforce improvement program or action plan. There are only five steps in Part 3 but each will require a lot of thought and attention. It may be necessary to gather additional facts and undertake some personal reconnaissance to complete your action plan.

The five steps are:

Step 9: *Determine an overall schedule for your workforce improvement program.*
Step 10: *Develop an action plan for each of your priority projects.*
Step 11: *Assess what resources are available to help initiate your projects.*
Step 12: *Build and maintain program support by developing a means to report project benefits.*
Step 13: *Develop a system to monitor and evaluate your action plan.*

For each project, you will develop a work plan. Each project work plan will be comprised of specific tasks, specific people and specific resources.

Step 9: Develop an overall schedule for your action plan

Of the projects you've selected, what are your immediate priorities? Which problems are best addressed over a longer period of time? Which project will yield immediate results? Which projects will not show any measurable benefits right away?

50

Jobs for Colorado's Future decided it needed to invest in projects that had both short and longer term paybacks. For example, their concern about creating a workforce that can meet the new global job skill needs has lead them to target pre-school education as a longer term investment. To meet more immediate needs, they are looking at projects that address adult literacy and math comprehension and on-the-job-training.

It's important to develop an overall program schedule that you can achieve. If you try to tackle every project at the same time, you will put yourself and those that work with you under unnecessary stress. It's wise to develop a program schedule that allows you to initiate both short term projects that yield immediately recognizable results as well as projects that will require sustained effort and may not yield visible results for years. First assess the amount of time each project will take then develop an overall schedule for your action plan. The following questions will help you make this determination.

INDIVIDUAL PROJECTS

Estimate how much time it will take to implement each project.

Project ______________________________:

Project ______________________________:

Project ______________________________:

When should each project begin? *(circle one)*

Immediately

In the short term (next few months)

Near term (next year or so)

Long term (project is 2-5 years away)

How much time will community leaders, staff, and volunteers need to commit? The time commitment for each project is likely to be *(circle one)*:

minor

moderate

extensive

How long do you estimate it will take to complete each project from start to finish? *(circle one)*

under 3 months
3- 6 months
6-12 months
1-2 years
2-5 years
over 5 years

OVERALL ACTION PLAN SCHEDULE

Your overall workforce improvement plan will consist of a number of distinct projects. Use the matrix below to determine when you should initiate each of your chosen workforce improvement projects. Are there any bottle necks? Can you be assured of some quick successes?

	PROJECT COMPLETION				
BENEFITS REALIZED	IMMEDIATELY	3 - 6 MONTHS	<1 YEAR	1 - 3 YEARS	OVER 3 YEARS
IMMEDIATELY					
3 - 6 MONTHS					
<1 YEAR					
1 - 3 YEARS					
OVER 3 YEARS					

Step 10: Develop a work plan for each of your priority projects.

Your work plan is a preliminary course of action for your project. It is comprised of specific tasks or actions that indicate what you will do, when you will do it, who will be initiating the task and what resources will be needed. Unlike goal statements and project ideas, tasks should be very concrete and tangible.

At minimum, each work plan will need to indicate seven things:

1) What tasks will need to be initiated
2) When they will be initiated
3) Who will be involved
4) Who has overall responsibility
5) What ideas and opportunities can you capitalize on
6) What funding will be needed and
7) How you plan to initiate your work plan

West Germany has an extremely sophisticated, comprehensive training system that allows its young people to compete in the world economy. Beginning in the primary school years, young people receive frequent counselling about career opportunities. They learn about the range of education and training options available to them. 60% of all young people, whether they are college-bound or not, participate in apprenticeship programs. These work-based learning programs, or apprenticeships, last for three years, combining 3 days a week on-the-job with 2 days a week in school. Acting in partnership, business, labor and educators have established 380 of these "training occupations", each with its own practical and theoretical exam for certification. Since many small firms cannot afford to operate training programs or apprenticeships, these firms collaborate with government assistance, to establish "inter-firm training centers". There are over 600 such centers in West Germany today.

WORK PLAN
Who?
What?
When?
How?

"Our project is to develop a series of training courses for small businesses at the local community college. We decided that we needed to undertake three tasks:

1) Inventory successful training programs that exist at other community colleges throughout the State.
2) Survey small business owners in the area to determine their priority needs.
3) Develop the curriculum for the training programs"

This step provides you with the framework to:

TASKS- Identify the work that needs to be done and

TIME FRAME- When the tasks need to be initiated
Step 11 helps you to identify:

PEOPLE- Decide who needs to be involved
RESPONSIBILITIES- Determine who has overall responsibility
IDEAS AND INFORMATION- Look at what ideas and opportunities you can capitalize on
FUNDING- Determine what funding will be needed and
IMMEDIATE ACTIONS- How you plan to initiate your work plan

TASKS:

List the major tasks you will initiate to address the goals you established for your overall workforce improvement program. Tasks should be very directive so there is no misunderstanding about what needs to be accomplished.

1. OUR FIRST PROJECT IS: ______________________________

THE MAJOR TASKS WE PLAN TO INITIATE ARE:

2. OUR SECOND PROJECT IS: ______________________________

THE MAJOR TASKS WE PLAN TO INITIATE ARE:

TIME FRAME:

Identify the time frame for each task listed. Be as specific as you can. Estimate how long it will take to complete each task and decide a good time to begin. Unlike Step 9 where you were asked to develop an overall program schedule, this worksheet asks you to determine how many months each specific task will take and when you can start. Be sure to include tasks that you can easily initiate in the next few weeks.

TASK #________________	MONTHS TO COMPLETE	START DATE

Step 11: Assess what resources are available to initiate your priority projects

Now that you know what needs to be done to initiate each project, it is useful to determine what community resources might exist to help you get started. By identifying resources within your own community you can avoid a common pitfall of relying too much on outside resources.

Some communities have had a difficult time improving the quality of their workforce because they often look to agencies outside of their community to be the catalyst for change. By utilizing resources close to home, you will find that you can initiate actions more quickly and with a greater degree of local control.

The Northwest Colorado Council of Governments in Summit County decided that one of their first actions to improve the competitiveness of their workforce was to undertake a survey of small business owners in the area to determine their priority training needs. They initially estimated that it would take 3 months to complete. They started the project in the fall of 1988.

STEP #11 WORKSHEET: IDENTIFYING COMMUNITY RESOURCES

This worksheet will help you determine what resources you will need. There are five categories of resources to analyze:

PEOPLE
RESPONSIBILITIES
IDEAS AND INFORMATION
FUNDING
IMMEDIATE ACTIONS

Answer the following questions for each of the projects you have selected. You may wish to make copies of this worksheet, so you will have one worksheet for each project.

RESOURCE ANALYSIS FOR____________________________________ PROJECT

PEOPLE

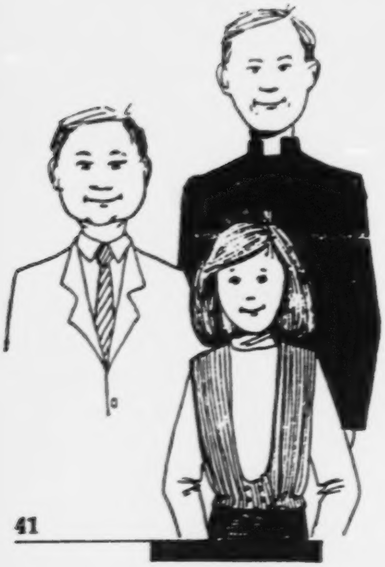
1) List what individuals are willing to work on this project.

2) Can you identify a person, organization or interest group that is willing to spearhead the project?

yes *no* *don't know*

*If yes, who?*____________________________

3) Identify any organizations who might be interested working on this project. Look closely at those organizations who's mission might be in keeping with this project.



4) Are there any other projects or programs that will assist or complement this project?

yes *no* *don't know*

*If yes, which ones?*__________________________

5) What people and organizations are likely to be supportive of the project? Once you complete this list, place a ✔ mark next to those names of people who may be willing to commit resources. (e.g. time, money or supplies)

6) Experience indicates that project implementation is more likely if at least two, preferably three sectors are involved with a project.
Which sectors will be involved in the project (*circle those that apply*)?

GOVERNMENT BUSINESS EDUCATION NON-PROFIT

7) Are there professional staff and volunteers that can devote the necessary time to work on the project?

yes *no* *don't know*

*If yes, who?*__________________________

RESPONSIBILITIES

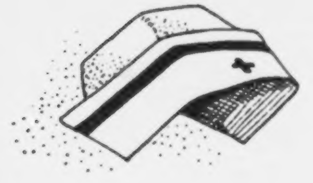
8) Who are the stakeholders? Who else needs to be involved in the project because they perceive they have either something to gain or possibly lose as a result of this project?

It is important to get all the people that will be impacted by the project involved. These are the stakeholders. Stakeholders include those that benefit from the project, people that might already be attempting to address the workforce issue through another forum, people in your community with the power or resources to institute needed changes and people that simply care about the quality of the local workforce. The most fair and effective workforce strategy distributes benefits equitably among different groups within the community by designing an action plan that includes several projects, with each project benefitting a different group. While the overall strategy may benefit some groups more than others, every group can see a reason to support your overall workforce improvement program.

The Colorado Alliance of Business is a non-profit organization that understands that education and employment interests need to be addressed by a coalition of people from the business community, government, non-profit agencies and educators. Formed in 1981, the Alliance has more than 230 member companies and a volunteer network of 350 people. One successful program, the Alliance's Summer Job Hunt program is currently sponsored by the Governor of Colorado, the Colorado Department of Labor and Employment, the Colorado Community College and Occupational Education System, the Governor's Job Training Office, KCNC Newscenter 4, and the Rocky Mountain News. This program has helped an estimated 98,000 youth, ages 16-21 find summer employment.

***The Large Helping Small Program** is an example of a project that was created in response to the challenge of small business training in Connecticut. Recognizing the advantages of large companies sharing their resources with small companies, Southern New England Telephone teamed up with Mohegan Community College to offer training seminars to small business people who often face great obstacles to getting needed training.*

In October of 1988, five state agencies pooled their resources to initiate an accelerated registered nursing program at the Front Range Community College. With the college in the lead role, the program targets women between the ages of 18 to 46 that are receiving aid to families with dependent children. The women attend school or participate in clinical practice 8 hours per day, five days a week for 20 straight months. These women will be able to enter a field that is suffering from severe labor shortages in a short period of time .



- List the interest groups within the community who will benefit from the overall action plan.

- List interest groups in the community who probably won't be affected if the program proceeds. They will neither lose nor gain.

- List the interest groups in the community who might be negatively effected by the program. Negative effects might include:

- preventing another project from occurring
- costing the interest group money but it receives nothing in return
- hindering some business activity due to project-related activity
  (e.g. construction of a new business incubator or training facility near retail businesses)

Indicate who will be involved and specify the role they will play.

9) What organization will take responsibility for initiating and implementing the project?

List the appropriate organization and, if possible, the lead person in that organization.

10) Who will take the lead to ensure each task is carried out? Try and make some initial assignments.

TASK	LEAD

11) Who will be responsible for ensuring all interests are involved?

To get citizens and the community as a whole actively involved in your project will take more than a few stories in the local newspaper. You need to utilize a number of different methods to build and maintain project support. Use the following checklist to:

1) determine what methods will be used to get people actively involved and committed in each project and
2) assign responsibilities to particular people for your action plan.

BUILDING PROGRAM SUPPORT AND COMMITMENT

METHOD	*WHO*
COMMUNITY PRESENTATIONS	____________________
OUTREACH TO SERVICE CLUBS	____________________
PUBLIC EDUCATION THROUGH THE NEWSPAPER	____________________
MEDIA EVENTS	____________________
PUBLIC RELATIONS CAMPAIGN	____________________
SPECIAL INVITATION	____________________
ONE-ON-ONE MEETINGS	____________________
TASK FORCE	____________________
TOWN MEETINGS	____________________
INDIVIDUAL INTERVIEWS	____________________
SMALL GROUP PROBLEM SOLVING	____________________
DELEGATE TO CITY STAFF OR ECONOMIC DEVELOPMENT INTERESTS	____________________
HIRE A CONSULTANT	____________________
EMPLOYER SPONSORED RECRUITMENT PROGRAM	____________________
PERSONAL RECRUITMENT EFFORT	____________________
OTHER ______________________________	____________________
______________________________	____________________
______________________________	____________________

> *"In the Denver metro area, there are numerous groups dedicated to improving the K-12 school system. Many of the groups have members in common. People are experiencing the enormous frustration of continuous meetings without many tangible results. To prevent further "burnout" of all of our members, we are finally beginning to coordinate our efforts."...*
>
> *Denver CEO*

IDEAS AND INFORMATION

12) List any community projects that are currently underway that might be trying to address the same workforce issue this project is attempting to address.

13) List any ideas or opportunities that have been discussed in your community that might complement or aid your efforts to implement this project.

14) Indicate what studies, data or other relevant information is available to help you initiate this project.

"Our local school district has funds to develop innovative curriculum"

Denver metro area
middle school teacher

FUNDING

15) Conduct a financial resource analysis.

There are many possible funding sources in your community. There may be community based foundations or corporations that are willing to contribute to your program. Or, you may find different organizations willing to offer services without charge to help keep your operating expenses down. For example, to start a training program for small businesses, you will need a place to hold the sessions. If you choose a local hotel, you may be charged room rent. On the other hand if the courses are held at the local college, the college may often let you use the classroom free of charge. Some major companies may have programs that can loan executives to public or non-profit organizations. This can provide needed manpower for your project. These same companies often have media, advertising and public relations people on staff that can donate their time to your project. Think about all the organizations that might be a source of project funding. Don't limit your search to one particular sector. Look to local corporations, school districts, community colleges, local economic development organizations, town and city budgets, and non-profit organizations that might service specific population groups or interests.

FINANCIAL RESOURCE ANALYSIS

RESOURCE NEEDED	ESTIMATED COST (donated or $$ amount)	SOURCE

IMMEDIATE ACTIONS

Summarize what steps you will take within the next month to initiate action on your project.

1.

2.

3.

4.

5.

Because workforce issues effect all sectors in Colorado, the Jobs for Colorado's Future program was structured as a public/private partnership. Funding was secured through the State of Colorado, the U.S. Department of Labor, and a number of Colorado corporations. The State of Colorado, the Colorado Community College and Occupational Education System (CCCOES) and businesses of all sizes donated staff, printing, public relations assistance and use of equipment for special projects and day to day operations.

Step 12: Develop a system to build and maintain program support by deciding how progress and benefits of each project will be reported to the community

The only way to build and maintain community support for your workforce improvement action plan is to ensure that community residents are involved with your program. They also need to know about and understand the benefits and accomplishments of your program. . Public relations — advertising and promoting your program accomplishments — is an important, though often overlooked component of any action plan. Too often, program sponsors are so busy getting things done, they forget to remind the community about the successes that have already occurred.

MEASURING AND REPORTING PROGRAM BENEFITS

The progress you are making on your action plan as well as the overall program benefits can be measured both objectively and subjectively. Objective measures are quantifiable. They might be the number of workers that have received formal on-the-job training as a result of your program or an increase in the number of graduates from a GED program. Subjective measures include changes in attitudes and opinions. Subjective measures might include positive articles in the newspaper regarding improved employee service to tourists or a new perception in the community that the local college is orienting curriculum to the needs of adult learners.

How will you measure the progress and accomplishments of your program? List objective as well as subjective methods.

OBJECTIVE MEASURES	SUBJECTIVE MEASURES

The journalism students in Belle Fourche, South Dakota now write for the local paper and local radio station, rather than for school assignments that do not seem "real". Their work is followed with interest in the community and they are held accountable for deadlines and real world quality. This program is unique since it also provides a means to advertise the success of the pilot program. Similar programs in seven other communities are helping rural students learn how to create jobs as part of their regular high school curriculum.

How will you report the program benefits to community residents? The following checklist will get you started. Next to each item you check, indicate who will be responsible for the communication.

COMMUNICATION TECHNIQUE

☐ NEWSPAPER ARTICLES ____________________

☐ MEDIA EVENTS (RADIO OR T.V.) ____________________

☐ SPECIAL NEWSPAPER SECTION ON PROGRAM ____________________

☐ VIDEO ____________________

☐ SLIDE SHOW ____________________

☐ BROCHURE ____________________

☐ SPECIAL MAILER ____________________

☐ COMMUNITY PRESENTATIONS TO SERVICE CLUBS, ELECTED REPRESENTATIVES, SPECIAL INTEREST GROUPS ____________________

☐ ADVERTISEMENTS ____________________

☐ WORD OF MOUTH ____________________

☐ OTHER____________________ ____________________

Step 13: Develop a system to monitor and evaluate your action plan.

Monitoring and evaluating your action plan is an important part of any action plan. Program evaluation has three clear benefits.

1) It provides you with good information you can report back to community residents.

2) It allows you to assess what is working and what is not working. This way you can capitalize on your successes while correcting any action plan deficiencies or problems. An evaluation will provide you with more information about workforce issues. You may find you need to re-orient your action plan.

3) Evaluating each project's progress allows you to determine how well you are doing in meeting your program goals. You can gauge how well your strategy is working. You can check to see if your initial estimates of time to complete each task were accurate.

The amount of time you spend evaluating your project is dependent upon what you are doing and what you want to learn from the evaluation. Some projects will only require a very simple evaluation. Others will require a more substantive assessment. This step provides assistance in determining what type of evaluation you might need. Before you start to implement your action plan, it is important to decide what you want to evaluate and how you will monitor your progress. If you don't decide what you want to evaluate now and how you will approach the evaluation, you are unlikely to have the baseline information you need for an accurate evaluation.

Evaluations are most useful if they are done by an objective individual or organization who has nothing to do with your action plan.

WHAT IS AN EVALUATION?

Evaluations are objective and quantifiable. They can help you determine the effect of your action plan. It is a direct measurement of program benefit based on available statistics. Evaluations are typically most useful when you want to look at the effect of a program over a number of years. Evaluations can also attempt to qualify changes in peoples capacities, attitudes and skills. Two primary activities are involved: talking to people that have been involved with the program and observing what is going on. Evaluations are based on a series of questions that are asked before the program takes place and then again afterwards are often called performance based evaluations. By looking at changes in how people respond you can assess the impact of the action plan. Often reported as case studies about new relationships that have evolved or linkages that have been made, performance based evaluations are best used to portray changes in peoples' attitudes and capabilities. These type of evaluations are quite useful to gauge the effect of a program while it is still going on or for projects that are of short duration.

In 1984, the Colorado Alliance of Business established the School-to-Work Action Program (SWAP), a basic skills/job readiness program designed to maximize the potential of at-risk teens. Originally offered at two Denver high schools, SWAP has significantly increased retention rates by giving at risk teens the hands on training and self-confidence to make a successful transition to post-secondary education and a career. The program is now being replicated in 20 junior and senior high schools statewide in communities as diverse as Alamosa, Colorado Springs, Greely and Grand Junction. Monitoring the results to date have shown that 90-93% of the students enrolled in this program stay in school. Grade point averages have increased by over 20%.

EVALUATION GUIDELINES

1) Decide what you want to measure. Make sure it is something that can be quantified.

2) Determine what statistics are available or will need to be collected.

3) Identify who will collect the information.

4) Establish when the information will be collected. You will need to collect information before you initiate the program as well as after you finish the program. You may also wish to conduct the evaluation while the program is still occurring. It's best to set a firm time schedule to gather the statistics you will need.

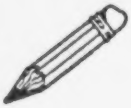
5) Determine what you want to know about how your action plan is working or has effected the community.

6) Develop a questionnaire that will allow you to determine what people know now before the program starts.

7) Outline to the evaluator how you plan to carry out your action plan and what results or changes you expect from the action plan.

8) Develop a second version of your questionnaire that will allow you to determine how responses have changed over a period of time. For the most part, the questions you asked before the program started will be the same as those that you ask after the program has been initiated. What you will be measuring is the change in people's response.

9) Set up a system that will allow the evaluator to observe how people "interact" with your action plan. For example, if your program is a training program, the evaluator will need to observe people being trained and ideally observe how they use that training in the workplace.



What do you want to measure or know from your evaluation?

Describe the components of your evaluation system. Use the evaluation guidelines to direct your response.

DESIRED OUTCOME:

Once you complete Part 3 you should have a "game plan" in place that outlines concrete actions that will improve the skills of your local workforce. The following Action Plan checklist will ensure that you have completed the necessary steps for a successful program.

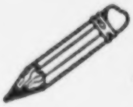
SUMMARY: ACTION PLAN CHECKLIST

Developing a local workforce action plan is one of the best initiatives you can take to obtain a sound economic future for your community. This workbook has been designed to help you identify workforce issues in your community and to develop a strategy to address these issues.

It is important to review your work to date to be sure that your action plan includes all of the elements that comprise a successful action plan. The following checklist will help.

The Public Policy Center at Stanford Research Institute (SRI) studied Higher Education and the economic development connection from mid-October of 1985 through mid-January of 1986. Mail surveys answered by over 300 colleges and universities, telephone interviews and site visits to seven universities led SRI to conclude that colleges and universities play an increasingly important role in the economic development of the nation's cities, states and regions. For example, the report concludes that "a faster changing technology base demands a stronger and more specialized and more responsive research capacity in universities. Taking advantage of the technology being developed in college laboratories requires improved efforts in technology transfer and commercialization. Technological developments are such that traditional disciplines (e.g, physics and chemistry) are becoming less relevant in research as many of the new challenges are interdisciplinary (e.g., advanced materials)."

67% of those universities and colleges surveyed stated that an understanding of community needs was key to their ability to contribute to economic development. As an example, the University of California at San Diego conducts an annual survey of business to determine technology related needs that ought to be reflected in the university's curriculum and research programs.



ACTION PLAN CHECKLIST

☐ 1) HAVE YOU DEFINED THE WORKFORCE ISSUES IN YOUR COMMUNITY BASED ON SOUND INFORMATION?

☐ 2) HAVE YOU CLEARLY DEFINED WHAT YOU WANT TO ACCOMPLISH?

☐ 3) HAVE YOU ESTABLISHED GOALS FOR YOUR PROGRAM?

☐ 4) HAVE YOU DEVELOPED AN OVERALL STRATEGY?

☐ 5) DO YOU HAVE A LIST OF PROJECTS THAT CAN MEET YOUR GOALS?

☐ 6) HAVE YOU IDENTIFIED ALL RESOURCES THAT ARE AVAILABLE FOR PROGRAM IMPLEMENTATION?

☐ 7) HAVE YOU SPECIFIED CONCRETE ACTIONS THAT NEED TO BE ACCOMPLISHED?

☐ 8) DO YOU HAVE A PLAN TO BUILD SUPPORT THROUGH PUBLIC RELATIONS & COMMUNITY INFORMATION?

☐ 8) HAVE YOU DEVELOPED A SYSTEM TO EVALUATE YOUR PROGRAM AND REPORT THE BENEFITS TO THE COMMUNITY?

APPENDIX-WHERE TO GO FOR ADDITIONAL HELP:

1) JCF VOCABULARY

- **Workforce**-individuals currently holding jobs or preparing to hold or seek jobs
- **Skills**-abilities, talents, traits, knowledge workers bring to job
- **Actions**-concrete steps to address needs
- **Learning system**-the collection of all education and training opportunities and institutions, including on-the-job-training that supports learning and individual development
- **Formal education**-classroom instruction at any age
- **On-The-Job-Training**-practical learning in a work setting

2) JCF RESEARCH DOCUMENTS

The Jobs for Colorado's Future program was established as a two year program in July, 1988. The first year of the program was dedicated to research on the economy, the workforce, and the education and training system in Colorado. The results of this research are available in three separate documents which are described below.

Education and Training in the Colorado Economy:

Jobs for the Future conducted a survey to determine the labor and skill needs of Colorado employers. A detailed, seven page questionnaire was mailed to a stratified sample of 10,000 Colorado employers. The survey sample included all companies in the state with over 100 employees, 10% of front range companies under 100 employees and 25% of the rest of Colorado companies under 100 employees. The survey identifies the skill levels of employees by job classification, the ability of employers to find the skilled employees they need today, and the skills they will require in the future.

Attitudes and Obstacles Concerning Work-Related Training:

This report is based on a survey of employed Coloradans across the state. It addresses employee needs and expectations regarding jobs, training, and the education system. The analysis also includes attitude profiles of Colorado employees, and identifies the problems they encounter in obtaining further training.

A Call to Action: The Action Plan for Jobs for the Future:

This document is a summary of the research and findings conducted by Jobs for Colorado's Future over a one and one half year period. It includes summaries of regional economies, community findings and challenges the state faces in the coming years. It concludes with recommended actions that need to occur in Colorado to develop a competitive workforce.

These documents are available at local libraries or at the Colorado Department of Labor and Employment or Department of Local Affairs, Division of Local Government.

3) WHERE TO FIND STATISTICS ON THE WORKFORCE

The information that you will need is available from many places. To start, Jobs for Colorado's Future suggests you inventory **existing data bases** for information. You can also conduct **interviews** and **survey** employers and employees in your community. What follows is a list of the kinds of workforce information that is readily available and where this information can be found in Colorado.

General Characteristics of the Population:

This includes who lives in your community, their ages, sex and race, employment characteristics, estimates of unemployed, how many people are retired or out of the workforce, school enrollment, amount of education completed and even housing and welfare statistics.

AVAILABLE FROM: The U.S. Census and the State Demographer's Office at the Department of Local Affairs.

Characteristics of the Workforce:

This includes- what occupations residents hold, what people earn by jobs and by industries, what kind of training and education workers have had and what attitudes people have about their work and the skills they need to do their work.

AVAILABLE FROM: Unlike some states, there is very little information of this sort available on a community basis. It is typically collected on a county by county basis. Be advised that some of the information might be classified as confidential. Start with the Colorado Department of Labor and "Community Profiles" available from the Department of Local Affairs. Check next with your local Job Service Center and Community College. Consider interviewing workers in your community or conducting a survey.

Structure of the Local Economy:

This includes- how the local economy is structured based on percentage of jobs and employers in different industries, what is being produced and manufactured in your region, how the economy has shifted over time; whether people work in small or large companies; whether people work for locally owned versus out of state businesses; what types of industries are looking at relocating to your community and Colorado and what types of enterprises are emerging in this State.

AVAILABLE FROM: Once again, local information is often hard to come by. Check with the person who handles economic development efforts in your town to see if a "targeted industries" study has been completed. Ask the local Chamber of Commerce for any information they might have. Next check with the State's Office of Economic Development and your Regional Council of Government. The State Demographer's Office can provide you with labor market information by what is know as four digit "Standard Industrial Codes". To compare this information with national statistics, turn to the U.S. Department of Labor and the Department of Commerce.

Necessary Skills:

This includes perspectives of employers as to what skills they believe are needed now and what they will be looking for in the future. It also includes the perspectives offered by those that are currently in the workforce or thinking about entering the workforce. Both the employers and employees have attitudes about skill deficiencies and education and training programs that are important to understand. Often, this kind of first hand information can provide you with a better understanding of workforce issues in your community. You are likely to come away understanding why there are obstacles to getting required training and why existing businesses can't find the workers they need even given a high unemployment rate.

AVAILABLE FROM: Community workshops, employer and employee surveys and interviews are the best source of this information. Another important source to check is your local Job Service Office. These people are in constant contact with the unemployed and with employers looking for workers.

Education and Training Assessment:

This includes what type of schools and training programs exist in your community. It should include an inventory and analysis of preschool programs, K-12, vo-tech, community and junior colleges and four year colleges and universities. Formal and informal training programs offered by both the public and private sectors should also be looked into, particularly for adults. Information on funding,enrollment, and who is reached through the available programs should be available.

AVAILABLE FROM: School district reports are the best place to start gathering this information. In Colorado, this information is readily available,usually in published form by all publicly funded schools, colleges and universities. Another good source of information is Parent- Teacher Associations, local employers and participating students. Special programs like the Small Business Development Centers run out of fourteen community colleges and the "Customized First", Job Training program provide another source of information. Contact the local P.I.C., State Job Training Office, the Colorado Community College and Occupational and Educational System (CCCOES) and the State Office of Economic Development for this kind of information.

GAMEPLAN

The following Jobs for the Future technical assistance product is GamePlan©, a career planning board game. GamePlan contains exercises that can help individuals plan their future working lives no matter where they might stand in relation to the job market. GamePlan can effectively motivate people to think about their jobs, their skills, and the changing world, with the ultimate goal of helping people better prepare for and manage change.

GamePlan was originally produced for the Jobs for Colorado's Future program and appeared as a news supplement to the Denver *Rocky Mountain News* on January 21, 1990.

Putting Your Plan To Work

GAMEPLAN helps you plan your next career steps no matter where you might find yourself in the job market. You can start anywhere. If you are currently job hunting or considering changing jobs, start at the beginning. If you are not satisfied in your job, think about what's not working by beginning at 11. If you are planning to stay in your job, start at 13 and learn about ways to improve yourself on the job.

❶ Name Three Jobs That Interest You

If you can't, don't worry! Go to 2. If you can, list the jobs here and go to 6.

1____________________

2____________________

3____________________

❷ What Do You Want Out Of Life?

List three goals that you have that could affect your choice of

1____________________

2____________________

3____________________

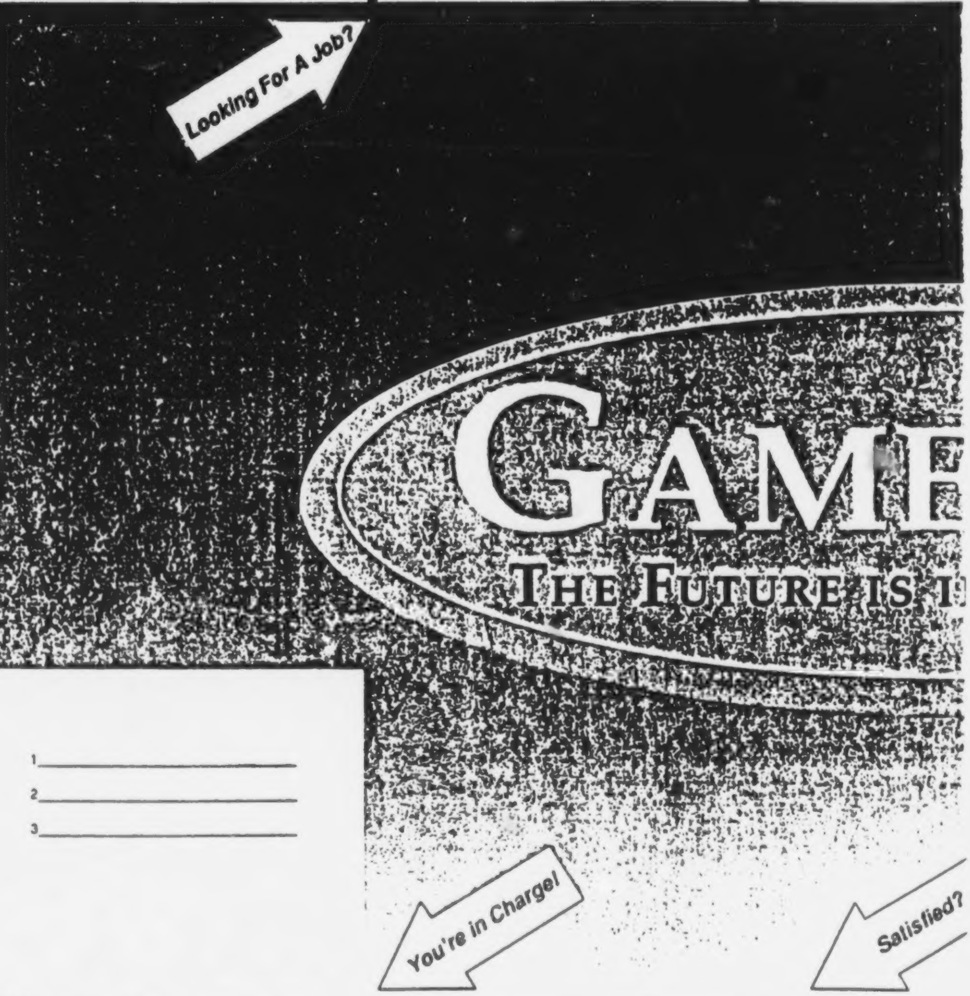
Move ahead one

⑯ It's Time To Retire!

Congratulations! But the game is just beginning! Go back to 1

⑮ You Get Promoted!

Congratulations, go back to 10.


Looking For A Job?
GAME
THE FUTURE IS I
You're in Charge!
Satisfied?

⑭ Lifelong Learning Get More Education!

Name three kinds of courses that could help you do your current job better. Bear in mind that jobs are changing and you might have to learn something new just to keep up.

Find out where you can take the courses and see if your employer will help fund your continued education. Move ahead one.

1____________________

2____________________

3____________________

⑬ You Can Get Promoted!

You like your job and your company. Could you get promoted? Think about it and then name three ways to be more productive in your work.

1____________________

2____________________

3____________________

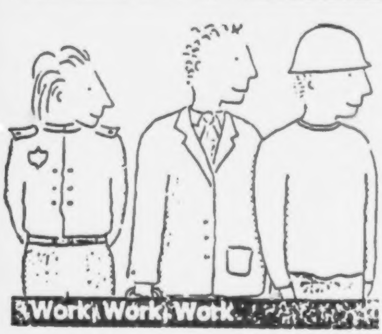
⑫ Enough Is Enough!

You are fed up with your current job. Either go back to start or back to 7.

⑪ Are You Satisfied?

☐ Yes, go to 13
☐ No, think about why and what you can do.

If you can work things out, move ahead to 13. If not, you might have to move to 12.


Work! Work! Work!

for your life
jobs.

______
______
______

③ What Abilities Do You Have?

List three of your abilities that you would like to use in your work. See the abilities chart to help identify your abilities.

1________________________
2________________________
3________________________

Move ahead one.

④ Describe Your Perfect Job

Write down the most important parts of your dream job.

I would...____________________
____
____

Move ahead one to try and make sense of all this!

⑤ Putting It Together

Think about all the different ways that you can combine parts of 2, 3, and 4 together. Make some different combinations and list three jobs that result.

1________________________
2________________________
3________________________

⑥ Are You Ready For The Job?

☐ Yes, move ahead one.
☐ No, think about what education or training you need. If you figure out what you need and are ready to do it, then take a break from this game and find a way to go back to school!

Move ahead one when you have finished your courses.

⑦ Where Should You Look For A Job?

Name some industries that interest you and that hire people to do the jobs you listed in 1 or 5.

1________________________
2________________________
3________________________

Move ahead one

PLAN
YOUR HANDS

⑧ How Should You Look For A Job?

The first step to looking for a job is to find out about places you might want to work. Name three organizations in your preferred industries, near where you live, and find out about their personalities.

If one of these places is good for you, give it a star and proceed to 9 for an interview.

1________________________
2________________________
3________________________

⑨ Get That Job!

For some good job-getting pointers, see the GAMEPLAN exercises. Got the job? Congratulations!

Move ahead one.

⑩ Hi Ho, Hi Ho, It's Off To Work You Go!

Move ahead one or, if you've been working for a long time and it's time to retire, move ahead to 16.

GAMEPLAN

THE FUTURE IS IN YOUR HANDS

The exercises on these pages are part of **GAMEPLAN**, a personal board game designed to help you think about your future career goals. Nowadays jobs are changing at a rapid pace. More and more jobs need people who know new things, like computers, team-work or statistics. These changes affect all of us and have made thinking about the future very important and very difficult.

These exercises will help you fill out some of the tougher parts of the game. The **GAMEPLAN** board is located in the center of this supplement.

GAMEPLAN helps you plan your next career steps no matter where you might find yourself in the job market. You can start anywhere. If you are currently job hunting or considering changing jobs, start at the beginning. If you are not satisfied in your job, think about what's not working by beginning at 11. If you are planning to stay in your job, start at 13 and learn about ways to improve yourself on the job.

GAMEPLAN is a product of Jobs for the Future, Inc., produced by Allison Daskal Hausman, designed and illustrated by Patricia Nieshoff and written by Gary M. Somers. This product is part of the Jobs for Colorado's Future program, a two-year, non-profit program funded by the state of Colorado, Colorado's private sector, and the U.S. Department of Labor.

1. Name Three Jobs that Interest You

If you can, name them and go to 6.

If you can't, fear not! Go to 2 and begin your journey!

2. What Do You Want out of Life?

Everybody has goals in life, but not everybody has a clear idea of what their goals are. Some of your goals may be purely personal—like to exercise four days a week—while others may be the kind that you can fulfill through your daily work—such as to teach children to enjoy reading. Some people have jobs that can't fulfill any of their goals, except to provide enough money to live. If you can find a job that will help you fulfill some of your other goals in life, it will be worth it. You'll be more satisfied in the long run, and your employer will be more happy with you.

EXERCISE

One way to think about your goals is to imagine how you want to be remembered. What would you want your obituary to say?

EXERCISE

Another way to think about your goals is to imagine that you've won $1,000,000. What would you do with your time?

EXERCISE

List five goals, and decide which are most important to you.

Some of your goals may be opposed to each other. Some may be opposed to certain jobs. You may have to give up some of them in order to take a job. It's easier to make those decisions if you know which goals are most important to you.

Abilities to Think About

Information Abilities

Putting ideas together: Taking pieces of ideas from different places and putting them together in new and unusual ways.

Coordinating: Putting ideas in their proper place with respect to each other.

Analyzing: Breaking ideas down into smaller parts to understand them better.

Computing: Using rules and formulas to draw conclusions from information.

Copying, Relaying: Ranking information directly from one source and giving it to someone without adding anything.

People Abilities

Leading by Example: Showing others what goals are worth while, how to accomplish those goals, and giving them the opportunity to do it.

Negotiating: Bringing two or more opposing sides together into a compromise which benefits all.

Supervising: Setting objectives, giving tasks to others, and monitoring their results.

Teaching, Coaching, Persuading: Showing others how to do some thing and encouraging them to do it.

Exchanging Information: Telling others about things.

Taking Instructions: Taking direction from supervisors on how to accomplish tasks.

"Thing" Abilities

Designing: Using the existing stock of ideas to come up with a new idea.

Developing: Taking an idea for a design, working out its consequences, and modifying the design to overcome difficulties.

Troubleshooting: Taking a thing that is already constructed, systematically discovering why it won't work as designed, and fixing it.

Assembling: Following a design to construct or manufacture a thing.

3. What Abilities Do You Have?

Your abilities are at the center of what you have to offer an employer. Your abilities fall into three major areas: people, information, and things. You can develop abilities in many ways: on the job, through school or training, through hobbies, or even on your own.

What abilities do you like to use?

Finding the right occupation means finding out which abilities you enjoy using the most. If you enjoy what you're doing, you'll be a better employee, and you'll also be happier.

EXERCISE

One way to figure out what abilities you enjoy most is to pick out your most satisfying experience of the last five or ten years. Describe it in detail. When you're done, go back and underline all of the action words. List them on a separate piece of paper. Go over the list and highlight the ones you enjoy the most. This could be the skeleton of a satisfying job for you.

You Can Transfer Your Abilities. Most people's abilities are directed to more specific kinds of objects. Some people are good at analyzing numbers, but poor at analyzing contracts. Others may be good at repairing automobiles, but poor at repairing electrical things. It's possible, however, to transfer abilities from one thing to another. Many musicians make good computer programmers. Homemakers use many abilities necessary to conference planners.

Are your abilities strongest in information, people or things? Where do you currently use your abilities? Where else do you think you could also use your abilities?

4. Describe Your Perfect Job

Everybody knows that the perfect job doesn't really exist. But imagining your perfect job can be another helpful way to figure out what jobs you might be interested in doing.

EXERCISE

Try to describe your perfect job. List the following "job requirements": responsibilities, boss, co-workers, surroundings, salary and benefits, hours, working conditions. Fill in what would be an ideal situation for you.

Where would you place what you like on this scale?

1 2 3 4 5 6 7 8 9 10

Stability	Change
Routine	Variety
Direction	Independence
No Pressure	Pressure
Informal	Formal
Outdoors	Indoors
Work Alone	Work in Team

5. Putting It Together

You've just described your goals, abilities and desires. These are like pieces of a puzzle that will give you an outline of a good job for you. And these pieces can be put together in many different ways to result in many different jobs.

EXERCISE

How would the pieces of the puzzle fit for you? Bring together the answers from 2, 3, and 4 and put together some sample jobs. List your goals, abilities, and what you like to do. You may want to do this exercise several times to see what you come up with when you change some of the items.

Once you've put these pieces together into a job, then all you have to do is find out where that job is. It may not exist anywhere—then try to put together a different puzzle. It may exist somewhere, but you don't know where. If this is so, then you should ask friends, relatives, and acquaintances. Ask them "Do you know anyone who does ________?" Ask enough people and, if it exists, you'll find it.

The Fastest Growing Colorado Industries

- **Business Services** Including personnel supply services, computer and data processing services, advertising, credit reporting and collection, mailing and reproduction services and services to buildings.
- **Credit Agencies** Including savings and loan associations, personal credit institutions, business credit institutions or security brokers and dealers.
- **Transportation Equipment** Including aircraft, aircraft parts, missiles and spacecraft.
- **Electronic Equipment** Including communications equipment, electrical industrial apparatus, electric lighting and wiring, and electronic components.
- **Printing and Publishing** Including newspapers, periodicals, books, miscellaneous publishing, commercial printing or business forms.

Source: U.S. Bureau of Labor Statistics/Jobs for Colorado's Future

6. Are You Ready for the Job?

The more formal education you have, the better off you will be in today's rapidly changing job market. More and more jobs require some education beyond high school. Those who have some education beyond high school are more likely to have a job, and to earn more, than those who don't.

You should choose a more specific vocational training program if:

1. You know for certain that you will enter the occupation you're training for.
2. You can't get into the occupation you want without it.

If you decide that college is for you, choose a major which will:

1. Help you develop your basic skills in reading, writing, math, and thinking.
2. Encourage you to learn more. The major will hold your interest.

Some majors will develop specific vocational skills and some don't. If you're in a field that doesn't, think about ways to pick up specific vocational skills while in school—like internships, volunteer work, or part-time employment.

If you already have a college degree, getting further education might help you advance in your field or change fields. Consider:

1. Taking a course.
2. Seeing about educational opportunities offered at your job.
3. Getting a graduate degree.

For more information, see the glossary of educational opportunities.

7. Where Should You Look for a Job?

Thinking about industries... Industries are just groups of organizations that make similar products or deliver similar services. Just as you should try to work at jobs that use your favorite abilities, if possible, you should try to work in industries that provide a service or product that you find interesting.

EXERCISE
Check off some industries that you find interesting, and learn more about them. How? Talk to people. Go to the library. Talk to someone who works in the field.

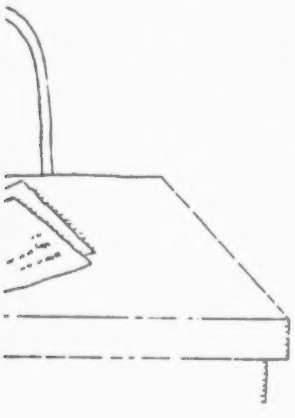
- ○ Computer and Data Processing Services
- ○ Outpatient Care Facilities
- ○ Miscellaneous Business Services
- ○ Eating and Drinking
- ○ Establishments
- ○ Legal Services
- ○ Education
- ○ Electronic Components
- ○ Engineering and Architectural Services
- ○ Office and Computing Machinery
- ○ Communication Equipment
- ○ Food Processing
- ○ Agricultural Services
- ○ Insurance
- ○ Financial Services
- ○ Health Services

8. How Should You Look for a Job?

Finding out about organizations. Organizations have personalities. This may sound a bit weird, but think about it. Each organization has its own story, and a different mix of people. Often certain types of people will be drawn to an organization because they feel comfortable with it. Organizations have values, goals and expectations, that they expect employees to share. You can start to get at some of these aspects of companies by looking around and talking to their employees. How do people dress on the job? What kind of jokes do they tell? When do they arrive at work? When do they leave? What does the place look like? What stories do they tell about the company and its founder? What is most important to the company?

EXERCISE
Think of three organizations in your preferred industries near where you live and find out what the personality is like in the organization. List the organization names and personalities.

Could one of them be a good place for you?



9. Get that Job!

If you know what you want to do and where you want to do it, getting that job may be easier than you think.

Step One: ***Convince the right person that they should hire you.*** Put yourself in the place of your potential supervisor. Your potential supervisor probably needs lots of help to get his or her work done. Supervisors prefer to hire people who can solve problems for them, not make more problems. So all you need to do is convince this person that you can solve his or her problems.

Find out who is in charge of the area in which you want to work, and call him or her. Say that you would like to discuss the kind of work done in that department, group, team, or whatever they call it. Don't worry if there is no job opening there now. It's possible that within the next three months a job will open up. Or the supervisor might have other suggestions for your job search.

Step Two: ***The interview***
Once you get in to talk to your intended boss, begin asking questions like "What are your biggest challenges in the next year?" Or, "What are your major goals in the next year?" Don't sell yourself—at least not yet. You need to find out first what this person needs before you can sell yourself. It will take time to find out this person's major concerns, but once you have, sell yourself by highlighting your abilities and your willingness to learn new ones. Sound easy? It should, because it is easier than most people make it out to be.

Step Three: ***It's your decision too.***
Remember that you and this person can benefit each other. Remember, too, that you are also screening this person. You may not want to work for him or her. It's your choice too, so don't act as if you are totally powerless.

As you go out for your job interviews, ask yourself:

1. Do I know which abilities I prefer to use?
2. Do I know what my goals are?
3. How can my abilities help this organization?

11. Are You Satisfied?

If you are currently employed, but not happy with your job, it's helpful to analyze what's wrong before you decide to look for a new job. Some of you might put different importance on different parts of your job. For instance, salary might be much more important to you than your working conditions. Its helpful, nonetheless, to see where you like your job and where you want to improve it.

EXERCISE
Circle the number that represents your feelings for that part of your job. Add up the numbers.

If your total score is 22-24, you're lucky—you are very happy with your job.

If your score is 16-22, you're doing well. You may want to look for ways to improve your job.

If your score is 8-16, you can get more satisfaction from your work. Think about how you can improve your situation.

If your score is less than 7, you should think about looking for a new job. Go back to 1.

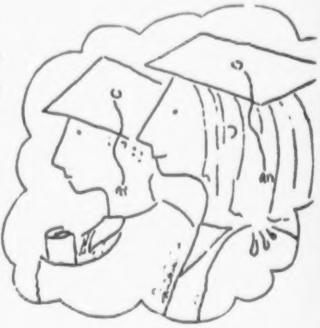
	Yuck!	So So	O.K.	Great!
Salary	0	1	2	3
Day-to-day responsibilities	0	1	2	3
Working conditions	0	1	2	3
Chances for promotion	0	1	2	3
Co-workers	0	1	2	3
Supervisor	0	1	2	3
Company's treatment of employees	0	1	2	3
Benefits	0	1	2	3

13. You Can Get Promoted!

We don't mean that you should blow your own horn, or be scheming all the time about how to make yourself look good in comparison to your co-worker in order to get a promotion. But if you are satisfied with the organization you're in, and satisfied with your job, it is natural to want to receive recognition for doing your job well. Promotions are one way to give you that recognition.

Why do people get promoted? Some would say that it is all political—you get promoted when you play the game the right way. While that may be the case in some instances, most organizations will not promote people unless they are productive. So ask yourself, "How can I be more productive?" "How can I figure out which tasks and projects are most valuable to the organization?" Talk with your supervisor and find what he or she thinks is most important. You may need to get further training to take on some of these responsibilities. *Don't be afraid to go for it.*

EXERCISE
Think about three ways to be more productive and list them. Why not try one of them?



14. Lifelong Learning Get More Education!

Bear in mind that jobs are changing and you might have to learn something new just to keep up.

EXERCISE
Name three kinds of courses that could help you do your job better. Find out where you can take these courses and see if your employer will help fund your continued education.

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EDUCATION AND TRAINING IN THE MISSOURI ECONOMY: A SURVEY OF MISSOURI EMPLOYERS

An Interim Report From

Jobs for Missouri's Future

◆

Spring 1990

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Education and Training in the Missouri Economy

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EDUCATION AND TRAINING IN THE MISSOURI ECONOMY

The Jobs for Missouri's Future survey of Missouri employers reveals a complex set of challenges facing Missouri today, and suggests the possibility of serious consequences if the state's public and private sector learning system doesn't successfully confront these challenges soon. Employer responses to the survey questions describe a growing gap between the workforce challenges many employers face and the mechanisms currently in place to deal with these challenges.

This report is based on a mailed survey of 10,000 Missouri employers conducted for the Jobs for Missouri's Program. The sampling included 100 percent of all firms that employ at least 100 workers, no firms that employ five or fewer employees, and a random selection of all remaining firms. The survey was mailed to employers during November 1989. There were approximately 850 usable responses.

SUMMARY OF FINDINGS

Conflicting signals emerge from Missouri employers–signals that suggest Missouri firms are not yet ready to address the shrinking availability of qualified workers. Problems in the labor market that are expected to get worse in the coming years–issues like labor quality, labor availability, matching workforce skills with technological change--are already beginning to show up in the state's economy. Yet solutions to these problems–higher investment in workforce development through better targeted education and training practices–are not particularly common.

A single word describes the growing tension between the emerging workforce challenges and the business practices that Missouri firms are currently using to meet those challenges: ***mismatch.***

This Jobs for Missouri's Future survey highlights a number of these tensions. Specific results are reported in greater detail later in this report, but some of the mismatches include the following:

- **Missouri managers are optimistic about the future–most firm managers believe that the number of employees will increase over the next few years. But firms are already experiencing problems in finding enough qualified new workers, particularly for professional, skilled and semi-skilled occupations.**
- **Technology is bringing about both positive and negative workplace changes.** In general, only Missouri's largest employers have invested in new technology and adopted new organizational arrangements that can help make the firms globally competitive.

Consequently, workforce needs of small and large firms are beginning to diverge far more than has been the case in the past.

- **Missouri employers reported that many specific skill levels of their workers are generally adequate, but there are some concerns in skill areas as setting priorities, communicating effectively, and solving problems--skills that are becoming more important in our new economic setting.**
- **Most firms attempt to solve workforce problems by hiring workers from outside their firms rather than promoting employees from within.** Larger firms recruit nationwide to find qualified employees for managerial and professional jobs. On the other hand, Missouri firms are closely tied to very local labor markets for almost every occupational level at the technician level or below. Missouri, like the nation, will soon be moving into a period of dramatic labor shortages where the most competitive firms will be those that invest a great deal in the learning of their own workers.
- **Very few Missouri firms make any expenditures for training at all.** Most firms say that training is a good investment, and they report being satisfied with their current training options. Yet about most of all firms spend less than $1,000 a year on training. Training investments are generally limited to larger employers.
- **Very few employers use the full range of training options now available to them**--resources like community colleges, four-year colleges, adult basic skill improvement, state customized training, and special training programs for disadvantaged workers. Instead, firms that do a great deal of training use a very narrow list of training resources that include in-house staff, vendors, equipment dealers, and consultants--resources that are usually narrowly targeted to job-specific or production-specific training.
- **Current training practices do not address the skills that employees need most.** The training that takes place today inside Missouri firms concentrates on increasing job-specific skills of workers--the skill that had the highest ratings from employers. Very little training is directed at increasing the competency of workers in skill areas that employers claim is the weakest--reading, math, problem-solving, etc.
- **The workers most in need of training, according to employers, receive less training than those workers reported now to have adequate skills.** Most training goes to managers and professional workers, and relatively little to technicians, clerical, semi-skilled and skilled workers. Yet Missouri employers were the most negative about the skill levels of these workers.
- **Smaller firms face a potentially greater skills and training mismatch.** Managers in smaller firms report relatively more difficulty in hiring and retaining workers for skilled and semi-skilled jobs. But despite these problems they are more likely to hire from outside the firm than promote from within; they are less satisfied with their

available training options; they do far less training; and they are less likely to believe that training is a good investment.

- **Larger firms do the most training but are more critical of their workers' skills.** Managers in larger firms are more likely to believe that training is a good investment and are more satisfied with their training options. They are more likely, overall, to report skill deficiencies across all levels of their workforce.
- **Firms that believe they are more 'innovative' are also more likely to think that training is a good investment, are more likely to invest in their workers and use a wider range of available training options.** But not all firms are innovative.

RECOMMENDATIONS FOR ACTION

The findings from the Jobs for Missouri's Future employer survey suggest several areas for strategic action:

1. **Focus both public and private-sector learning on training and education across a variety of skills.** A competitive workforce is one that is flexible and can adapt quickly to changes in the workplace. Most firms only emphasize training workers for job-specific skills. Yet many workers need training that will give them flexibility and help them deal with the changing Missouri workplace: how to set priorities, how to communicate effectively, how to solve problems. Missouri employers need to incorporate competency-based training into their existing training efforts. The public sector institutions that together provide a basic education for Missouri's workers should move toward adopting learning methods that develop the broad competencies that employers say they need.
2. **Help Missouri firms evaluate their training needs and expenditures.** Many workers do not have the skills they need, yet very few firms are spending any funds to develop skills. A mismatch clearly exists between needs and practice, a mismatch that exists as a result of many factors–knowledge about what kind of training would benefit the firm, knowledge about what training resources exist to help firms, knowledge about ways in which training practices could be improved or training costs kept to a minimum.
3. **Find ways to improve on-the-job training.** The survey indicates clearly that on-the-job training is the most important and most used training method within Missouri firms. Yet various workplace studies indicate that on-the-job training actually has limited effect for workers–it often teaches only those few specific skills required to do a particular job at the expense of a true learning experience that supports a worker's ability to perform better when confronted with a changed environment.

   Meanwhile workers often want to learn and need to know about what other employees in their firm do and how different jobs relate to one another. Firms often want their workers to learn broader skills like how to solve problems or work in teams. While improved training may help, it will not come by trying to replace on-the-job training with other, more structured (and more expensive) training options. Improving on-the-job training, though, may give workers a broader vision of a firm's operations, or show employers how broader skill competencies can be incorporated into such training. These steps are critical to improving the skills of Missouri workers and to keeping training (and retraining) costs manageable for employers.

4. **Educate firms on available training options.** While on-the-job training is critical, many firms will require alternative forms of training from time to time. The survey results suggest that many Missouri firms do not use the full range of available training options. Firms not familiar with existing options would benefit from learning more about how different resources can be used for greater effect in the workplace.

5. **Help provide ways for employers to train skilled and semi-skilled workers.** According to the survey findings, skilled and semi-skilled occupations are expected grow in the future. Yet workers in these areas often lack adequate skills; and many firms do not provide adequate training to these employees. This is a strategic mismatch that must be addressed. Missouri employers may need assistance in evaluating and training skilled and semi-skilled employees; these may be appropriate areas for additional research.

6. **Innovative techniques may be required to reach many Missouri firms.** Smaller firms that have yet to make investments in new production technologies may need special assistance. The importance of small businesses as the primary job generators in the state suggests a real need to help firms identify appropriate technology, find the necessary finance to acquire it, and train workers in the applications and new production organizations that go along with new automated processes.

7. **Strengthen efforts that support basic skill education in the workforce.** The need for basic skills training is a national concern, and Missouri is no different. Deficiencies in reading and math are most apparent among skilled and semi-skilled workers. (These occupational groups also require the most training in other areas as well. Without a grounding in basic skills, advanced training may be difficult to achieve.)

   The lack of basic skills is more than just a workplace phenomenon. It has implications for how Missouri, and the country, develop socially. Finding innovative ways to reach Missourians in need of basic skills is imperative; for many people will not attend basic skills training at schools or other institutions where they may have failed once before. Alternative locations include community based organizations, libraries, as well as at the workplace. Employers and managers must be sensitized in ways to work with employees who may need basic skills training.

8. **Help match job openings to available workers.** The survey indicates that many firms are experiencing difficulty hiring new workers, especially small businesses. Meanwhile there are individuals who want to work in Missouri but remain without jobs. This is a clear mismatch. Better ways must be found to help prepare and match Missouri workers with available job opportunities.

9. **Provide ways to help firms innovate with new processes, new products, open management, and aggressive marketing.** Firms that consider themselves to be innovative are more likely to invest in their workers and take advantage of existing training opportunities. There may be other benefits as well which were not examined in this survey. What makes these firms innovative? What attitudes or experiences have led them to innovate? Are there other benefits to being innovative? And, finally, how can the lessons, experiences or approaches of innovative firms be transferred to all Missouri firms to enhance competitiveness?

ORGANIZATION OF THIS REPORT

The survey results are organized into three sections. Section I draws general conclusions from the survey data and presents responses by firm size, industrial sector, and degree of innovation. Section II focuses on general workforce problems facing Missouri companies. Labor quality, skill deficiency, hiring and recruitment practices, employee benefits, and technology and innovation are analyzed in the aggregate, by firm size, and by industrial sector. Finally, Section III profiles current training practices and priorities in Missouri firms. While the labor force problems facing firms in different sectors of the economy vary, the mechanisms in place to solve these problems vary even more.

SECTION ONE: CONCLUSIONS FROM THE SURVEY DATA

This section reports survey results that define the Missouri workplace--a combination of employer practices and behaviors, attitudes and evaluations that shape the environment within which the Jobs for Missouri's Future action plan must operate. Frequency distributions, which further define the private sector training and education environment, are attached in Appendix A.

THE MISSOURI WORKPLACE

Missouri firms are somewhat optimistic about growth in the future. About 50 percent of Missouri firms anticipate increasing the number of employees over the next three years. [Missouri employers are slightly more optimistic about future employment growth than firms in other states where Jobs For the Future has asked this question.] One of the most important factors about growth nationally that was reflected in the Missouri results concerns the lack of anticipated growth among large firms. The biggest employers have gone through a period of "downsizing" as new production technologies permit greater productivity with less manpower. In Missouri, large firms do not anticipate growing in size in the next three years. Only the medium-sized employers (with between 25 and 100 workers) show much hope for employment growth.

Finding qualified workers and the high costs for retraining rank as the highest critical competitiveness issues among Missouri firms. Forty-seven percent of employers report that labor quality and labor availability (46 percent) are critical problems. A smaller percentage of firms pointed to bearing the cost of training or retraining (37 percent) and the cost of labor (34 percent) as critical problems.

Across all occupations, over one half of all firms have trouble recruiting and hiring qualified workers. The problem is most acute among workers in the professional, technical and skilled occupations--areas where firms are most likely to increase their number of employees over the next five years (see **Table Two**).

Most firms look outside the firm to hire workers rather than promote from within. The only exception is in the occupational area of managers, where 57 percent of firms promote from within. Given the population demographics that face both Missouri and the nation, employers may not always have the luxury of searching the labor market for new workers--firms will have to depend much more on their existing workers to be able to fill jobs as they become available (see **Table Three**).

Most employers recruit locally for their employees. Firms of all sizes primarily use local and sub-state labor markets to search for new workers. Efforts to increase the amount of training and education among Missouri citizens would benefit most employers because the of the close relationship between supply and demand for labor that is apparent in Missouri. However, firms tend to recruit managers and professionals from the region and beyond (about 25 percent of all firms look for workers in these occupations from the Midwest region or throughout the nation). In fact, the largest firms do most of their highest level recruiting statewide and beyond. Results of JMF's discussions with larger Missouri employers suggest that the lack of (see Table Four).

Table Two
Difficulty in Recruiting Qualified Workers

Occupational Group	Much/Some Trouble	Little/No Trouble
Professionals	63%	37%
Technicians	62	38
Skilled Craft	61	39
Managers	57	43
Sales and Marketing	54	46
Service	51	49
Operators	43	57
Clerical	38	62

(How to read this table: "63 percent of all firms reported having much or some trouble in hiring qualified professionals.")

Table Three
Hiring vs. Promotion Practices of Missouri Firms

Occupational Group	(Hire Outside) 0-49 of time	50-50% hire/promote	(Promote Within) 51-100% of time
Managers	28	15	57
Professionals	64	13	23
Technicians	51	19	30
Skilled craft and Production	42	20	38
Operators, Fabricators	50	14	36
Clerical, admin support	54	18	28
Sales and Marketing	57	16	27
Service	61	25	24

(How to read this table: "28 percent of firms reported hiring managers from outside the firm 50 percent of the time, while promoting managers from within the firm more than 57 percent of the time.")

Table Four
Recruitment Practices of Missouri Firms

Occupational Group	Local & Region	State , Midwest & National
Managers	74%	26%
Professionals	72	34
Technicians	88	18
Skilled craft and production	97	8
Operators, fabricators	98	5
Clerical and admin. support	102	2
Sales and marketing	79	26
Service workers	103	2

(How to read this table: "74 percent of firms reported recruiting managers from their local community or local region.")

SECTION TWO: WORKFORCE ISSUES IN THE LABOR MARKET

• CHALLENGES TO GROWTH

Firms of all sizes in most industrial sectors across Missouri face similar workforce challenges. Almost one half of all managers surveyed–regardless of region, industry, or firm size–indicate that labor quality and labor availability presents a problem for the growth of their company. And just over one third of all firms surveyed cite cost on training or retraining and labor costs as critical problems. (

Challenges to Growth by Firm Size. The severity of workforce issues varies somewhat according to firm size. Larger firms face the greatest challenges in the areas of labor cost and the cost of training or retraining the workers. Smaller firms also reported critical problems with labor quality (See **Table Six**).

Table Six
Percent of Firms by Firm Size Reporting Challenges
That Affect Their Firm's Growth

	Firm Size			
Challenge	1-25	26-100	101-245	246+
Labor Availability	38%	37%	45%	41%
Labor Cost	30	39	35	44
Labor Quality	48	49	44	50
Cost of Training/Retraining	34	38	40	43

(How to read this table: "38 percent of firms that employ between 1 and 25 workers reported that labor availability was a problem that affects their firm's growth.")

Challenges to Growth by Industrial Sector. Service firms appear to face the most serious workforce challenges (See **Table Seven**). Fifty percent of all firms in the service industry cited labor quality problems and forty seven percent cited labor availability as an issue that affects growth. Labor quality seems to be the most serious workforce challenge for all sectors. Forty-seven percent of the transportation industries report labor quality problems, fifty percent in the service and manufacturing industries and fifty one percent in the trade industries.

The cost of training and retraining the labor force is a concern for firms in all industrial sectors. However, manufacturing firms face the greatest challenges in this area. Forty-two percent of all manufacturing firms surveyed reported that the cost of training and retraining the workforce posed a problem for their firm's growth, with the service industry running a close second, with forty-one percent citing costs of training and retraining as a problem that has affected growth.

Assuming that the cost of training and retraining the workforce is partially related to technological change, the problem that firms in the manufacturing sector reported with the costs of training and retraining the workforce is confusing. Firms in the financial and TCPU (that is, transportation, communications, and public utilities) sectors reported greater increases in skill requirements because of new technologies than manufacturing firms, yet significantly fewer firms in these industries reported that the costs of training and retraining the workforce posed a growth problem.

Overall, finance firms faced by far the fewest workforce challenges in the areas of labor availability, labor cost and quality, and training and retraining costs. It is possible that the relatively lower concern over the costs of training and retraining the workforce by finance and TCPU firms reflect a positive view of training that characterizes these two industrial sectors. This attitude toward training will be discussed in greater detail below.

Table Seven
Percent of firms by industrial sector reporting challenges
that affect their firm's growth

	Industrial Sector					
Challenge	Con.	Mfg.	TCPU	Trade	Fin.	Svc.
Labor Availability	31%	32%	36%	33%	17%	47%
Labor Cost	44	26	33	31	17	31
Labor Quality	44	50	47	51	26	50
Costs of Training	35	42	22	36	21	41

(How to read this table: "31 percent of firms in the construction sector reported that labor availability is a problem that has affected their firm's growth.")

- LABOR QUALITY

Nearly half of all employers surveyed reported experiencing trouble in recruiting qualified workers across all occupational groups. Forty seven percent of Missouri employers have problems hiring employees for their firm's most critical job. And 43 percent of firms reported problems retaining workers in the firm's most critical position once they are hired.

Hiring problems are the most acute among professional and technical, sales and marketing, service workers, and skilled occupations--over half of all firms surveyed have much or some trouble recruiting for openings in these occupations. Filling positions in these occupations will become increasingly problematic for Missouri firms as these are precisely the occupations for which Missouri firms anticipate the most growth in over the next five years.

Labor Quality by Firm Size. Smaller firms generally experience more difficulty hiring qualified workers for all occupations than large firms. Smaller firms experience the most difficulty in hiring qualified workers for skilled and semi-skilled occupations. Larger firms, by contrast, experience more difficulty hiring qualified managers, professionals, and technicians (See Table Eight).

Table Eight
Percent of Firms by Firm Size That Experience Difficulty
Hiring Qualified Workers

Occupational Group	Firm Size 1-25	 26-100	 101-245	 246+
Managers	51%	62%	60%	68%
Professionals	55	62	69	70
Technicians	59	40	65	73
Skilled craft/production	62	67	59	58
Operators, fabricators	42	49	46	38
Clerical and admin support	40	48	33	32
Sales and marketing	56	57	47	49
Service workers	58	54	44	31

(How to read this table: "51 percent of firms that employ between 1 and 25 workers reported much or some difficulty in hiring managerial workers.")

Labor Quality by Industrial Sector. Trade firms and service firms reported the greatest difficulty in hiring qualified workers. Over half of all employers in both sectors reported much or some difficulty in hiring qualified workers for managers, technicians, and service workers.

• SKILL DEFICIENCIES IN THE MISSOURI WORKFORCE

On the whole, Missouri employers reported that their workers could benefit from further education and training. Over 70% of employers cited that their workforce could benefit from further training in the areas of communicating to others, solving problems, group effectiveness, leadership, and setting and meeting priorities. Over 60% of all employers reported that their employees could benefit from further training in the areas of computation, math, communicating with others, the ability to adapt and learn and work ethic. And over 50% of employers reported that their employees could benefit from further training in computers, maintenance and repair, reading and writing, and marketing

Employers report greater deficiencies in many basic skill areas, especially among semi-skilled workers (See **Table Ten**). Employers cited that managers could benefit from further training in math 49% of the time, and reading and writing 48% of the time, compared to semi-skilled workers who could benefit from math training 71% of the time, and reading and writing 70% of the time.

A large number of firms report that skilled workers are most deficient in seven of the fifteen skills listed in the survey. The areas that skilled workers are most deficient in are precisely the skills that are increasingly important in the Missouri workplace–computer skills, problem solving skills, communication skills and the ability to set and meet priorities.

The level of deficiency among professional workers is smaller. The skill deficiencies a greater percentage of employers report among professional employees are computer, group effectiveness, leadership, marketing, and accounting and bookkeeping .

Table Ten
Percent of Firms That Rated Employees' Skills as "Poor" or "Fair" Across Ten Skill Areas

	Managers	Prof, Tech., & Sales	Semi-Skilled
Computation skills	49%	55%	65%
Computer training	74	74	48
Math skills	49	56	71
Problem solving	73	76	76
Group effectiveness	77	74	70
Leadership	80	74	57
Communication skills	79	82	80
Technical operator	28	38	61
Maintenance & repair	27	33	64
Reading and writing	48	54	70
Marketing skills	64	63	36
Accounting/bookkeeping	53	47	30
Ability to adapt & learn	63	67	78
Attitude (work ethic)	56	66	81
Setting, meeting priorities	71	73	69

(How to read this table: "74 percent of employers said that some or most of their managers could benefit from further education or training in computers.")

Skill Deficiency by Firm Size. In general, larger firms report greater skill deficiencies among workers in all occupations than small firms. Larger firms are more likely than smaller firms to cite skill deficiencies in their professional workforce in the areas of communication, teamwork, and the ability to set priorities. Professional workers' shortcomings in these areas may be more apparent to employers in large firms because the need for these skills is greater in large organizations.

In the skilled and semi-skilled occupations, large firms were much more likely than small firms to cite skill deficiencies among workers in reading, math, communications, problem-solving, work ethic and teamwork. While small and large firms alike identify skill deficiencies in the semi-skilled labor force, large firms are more likely to report deficiencies than small firms across every skill area. Over 60 percent of all firms with 50 employees or more cited significant deficiencies among semi-skilled workers in reading, math and computer skills.

• HIRING PRACTICES

Missouri firms tend to look outside the firm when hiring for new or vacated positions rather than promote from within. The vast majority of Missouri firms look outside to hire new workers rather than promote from within the firm (see **Table Three** above). The tendency to hire workers from the outside applies to all occupational categories except managers.

Over three-fourths of the firms surveyed reported that they promote less than 25 percent of their own employees to professional, technical, sales and marketing, skilled and semi-skilled positions within the company. Ninety percent of openings in these occupations are filled by individuals hired from outside the firm.

The only exception to this hiring rule is in managerial occupations. Only a fifth of firms surveyed hired all managers from the outside and forty-one percent of firms surveyed promote employees within the company to managerial positions 100 percent of the time.

The tendency to promote managers from within a company suggests that managerial skills are more firm specific than in other occupational categories. Understanding corporate culture and the operational intricacies of a firm are probably of greater importance in managerial positions.

The tendency to hire workers for all occupations except managers from the outside applies more or less evenly across all industrial sectors and to both large and small firms. In general, though, small firms are more likely than large firms to go outside the company to hire non-managerial workers (see **Table Eleven**).

• RECRUITMENT PRACTICES

Most Missouri employers recruit workers for new or vacated positions through the local labor market. However, firms are more likely to recruit statewide, regional, and nationally for managers and professionals. Between 90 and 100 percent of firms surveyed report that they recruit skilled and semi-skilled workers through the local or regional labor market. Firms are more likely to conduct statewide or national searches for professional employees--managers, professionals, technicians, and sales and marketing. JMF interviews with managers of many Missouri firms confirmed that many employers perceive a lack of qualified managers and professionals within the state, and that recruiting practices had expanded dramatically in recent years.

Table Eleven
Outside Hiring Practices of Missouri Firms
by Firm Size

	Firm Size			
Occupation	1-25	26-100	101-245	246+
Managers	49%	29%	20%	21%
Professionals	74	75	63	63
Technicians	80	77	68	53
Skilled craft	82	77	67	57
Clerical	76	73	68	26
Operators/Laborers	88	82	80	79
Service	88	82	73	72
Sales/Marketing	78	74	70	64

(How to read this table: "49% of respondents that employ between 1 and 25 workers are more likely to hire managers from outside the firm than promote from within.")

Recruitment Practices by Firm Size. Larger firms are more likely than small firms to extend recruitment efforts beyond the local labor market (See **Table Twelve**). For example, fifty one percent of firms with under 25 employees report that they recruit managers from the local labor market; in contrast, only 48 percent of firms with 246 employees or more recruit managers from the local labor market.

Recruitment Patterns by Industrial Sector. Finance, manufacturing and TCPU firms conduct the largest number of worker searches statewide and beyond for professional employees. Finance companies tend to have a higher proportion of professional employees than firms in other industrial sectors, which may explain their relatively wider recruitment practices. And manufacturing and TCPU firms often require extremely specialized knowledge in production processes and technology–skills less often found in the local labor market.

Construction and trade industries recruit a significantly higher proportion of professionals from the local labor market than other industries. Construction and trade are less technology intensive than the industries that conduct more extensive statewide and beyond searches and tend to require less specialized knowledge and formal education.

Table Twelve
Local Recruitment Patterns of Missouri Firms by Firm Size

	Firm Size			
	1-25	26-100	101-245	246+
Managers	91%	73%	63%	48%
Professionals	86	75	65	52
Technicians	95	87	86	79
Skilled craft, production	96	91	103	95
Operators, fabricators	100	102	103	96
Clerical. admin support	100	99	105	104
Sales and marketing	95	67	69	57
Service	100	97	105	105

(How to read this table: "91% of firms that have between 1 and 25 employees recruit managers from their local area.")

There is little difference in recruitment practices for semi-skilled occupations across industrial sectors. Ninety to 100 percent of firms in all industrial sectors recruit semi-skilled workers through the local labor market (See **Table Thirteen**).

Table Thirteen
Local Recruitment Patterns of Missouri Firms
by Industrial Sector

	Const.	Mfg.	TCPU	Trade	Fin.	Serv.
Managers	82%	54%	32%	88%	40%	84%
Professionals	79	57	48	78	66	82
Technicians	88	82	80	89	89	92
Skilled craft, prod.	98	98	95	91	91	97
Operators, fabricators	100	100	96	94	90	96
Clerical, admin support	100	104	104	97	100	103
Sales, marketing	82	57	70	92	72	85
Service	104	100	100	100	97	105

(How to read this table: "82% of firms in the construction sector reported that they recruit managers primarily from their local area.")

• INNOVATION IN MISSOURI FIRMS

Over half of all Missouri firms characterize their management style as innovative. In the areas of new product development, aggressive marketing tactics and advanced production processes, large firms characterize themselves as innovative much more frequently than small firms. However, innovative management styles occur in large and medium-sized firms at approximately the same rate--roughly 54 to 59% of all firms with 25 or more employees report innovation in their approach to management.

Innovation by Firm Size. The survey data reveal that considerable overlap exists between"innovative" firms and large firms--the larger a firm is, the more likely its managers are to characterize its practices as innovative .

Seventy of firms with 246 employees or more believe they are innovative in developing new products or services, while less than 50 percent of firms with under 25 employees characterize themselves as innovative in these areas. Similarly, 51 percent of large firms report using highly advanced production processes while less than a third of small firms use highly advanced production processes.

Large firms and the firms that characterize their business practices as innovative are the firms that offer the most training and development to employees. As Section II will describe in more detail, large-innovative firms are more likely than small firms to offer tuition reimbursement and developmental training to employees; they offer a higher proportion of informal on-the-job training, formal in-house training, and outside courses to train their employees; and they are also more likely than small firms and firms that do not characterize themselves as innovative to believe that training is a good investment of company resources.

Innovation by Industrial Sector. Manufacturing firms, transportation, communication and utilities companies, and finance firms are the most likely to characterize their business practices as innovative. These industries are particularly innovative in developing new production processes.

Construction, trade, and service industries have the least innovative business practices along all dimensions listed. Construction and trade have experienced the least amount of change as a result of new technologies of all the industrial sectors.

SECTION THREE: TRAINING PRACTICES OF MISSOURI FIRMS

• PURPOSES OF TRAINING

Development of job-specific skills is the first training priority among Missouri employers. Beyond that, little consensus exists on training priorities. Overwhelmingly, employers report that job specific skills (71 percent) are their first training priority, followed by teaching new technologies and methods (11 percent) and certification or licensing (10 percent)(See Table Sixteen).

Table Sixteen
Training Priorities of Missouri Firms

Type of Training	First Priority	Second Priority	Third Priority
Job-specific skills	71%	20%	7%
New technologies	11	43	25
Certification	10	12	14
Prepare for promotion	3	18	33
Other	2	1	10
Fringe benefit	2	1	7
Reading/math	1	3	5
Reward performance	0	3	6

(How to read this table: "71 percent of respondents stated that training for job-specific skills is their first training priority; 11 percent of firms stated that training in new technologies is their first training priority.")

• INVESTMENTS IN TRAINING

Despite the variety of skills deficiencies reported by Missouri employers, and despite the problems that firms report with labor quality, the majority of firms spend less than $5,000 annually on training. The majority of Missouri firms believe training is a good or excellent investment of resources--74 percent of firms surveyed believed that allocating resources to training is an excellent company investment. However, the majority of Missouri firms actually spend less than $5,000 annually on training.

Twenty-four percent of Missouri firms spend between $0 and $1,000 annually on training. Twenty six percent of firms spend between $1,001 and $5,000, and twenty percent spend between $5,001 and $20,000 annually. The remaining 30% spend between $20,001 and $100,001+ annually on training.

Investment in Training by Firm Size. Large firms are more likely to believe training is a good investment for the company than small firms. Eighty-seven percent of firms with 246 employees or more feel training is an excellent investment while 62 percent of firms with less than 25 employees believe training is an excellent investment.

Consistent with this finding, a significantly higher proportion of large firms offer developmental training services and tuition reimbursement services to their employees than small firms. Large firms are also much more satisfied with existing training options than small firms.

Investment in Training by Industrial Sector. Firms in the manufacturing, TCPU and finance sectors have the largest annual training budgets while firms in construction and trade allocate the least amount of annual resources to training.

Trade, services, and finance firms are also somewhat more likely to think training is a good investment than firms in other industrial sectors. These perspectives on training may reflect industries that they have experienced the greatest workforce changes because of new technologies and report the greatest increases in skill requirements as a consequence of changing technologies.

Firms in the construction and manufacturing sectors of the economy are the least likely to think that training and education is an excellent investment for their company (even though trade, mfg, and service industries cited greater problems with labor quality than firms in other industrial sectors).

The majority of firms in all industrial sectors spend less than $5,000 annually for training (See **Table Seventeen**). However, large differences do exist between the resources firms in different industrial sectors allocate to training. For example, 58 percent of all finance firms, 56 percent of all manufacturing, and TCPU firms, and 49 percent of service firms, allocate more than $5,000 to training annually, whereas only 33 percent of construction firms and 31 percent of trade firms allocate more than $5,000 annually to training.

Finance (19 percent) and manufacturing and TCPU (16 percent) firms are the most likely of the industrial sectors in the state to spend more than $100,000 annually on training and education--whereas only 9 percent of the service firms and 3% construction and 2% of the trade firms spend that amount. TCPU, finance and manufacturing firms are the most likely to describe their business practices (production processes, product development, management style and marketing tactics) as innovative.

Unlike the two other "non-innovative" industries, the vast majority (82 percent) of service firms allocate at least some resources for training. In fact, after finance, firms in the service sector are the most likely to allocate the most resources to training.

Table Seventeen
Annual Expenditures on Training by Industrial Sector

Amount	Const.	TCPU	Mfg. & Trade	Fin.	Serv.
$ up to 1,000	28%	18%	37%	19%	24%
$ 1,000 - 5,000	39	16	32	22	28
$ 5,001 - 20,000	22	17	15	22	22
$ 20,001 - 100,000	8	23	14	17	18
$ 100,001+	3	16	2	19	9

(How to read this table: "28 percent of firms in the construction sector reported spending between $0 and 1,000 on training.")

• ATTITUDES TOWARD TRAINING

While many Missouri firms experience difficulty finding qualified workers and view skill inadequacies as a critical workforce problem, employers are generally pleased with the range of existing training options. Seventy percent of the firms surveyed reported their current training opportunities are either "highly satisfactory" or "satisfactory". Eighteen percent of firms surveyed characterize their current training options as "unsatisfactory" or "highly unsatisfactory".

Attitudes Toward Training by Firm Size. Table Eighteen shows that large firms tend to be more satisfied with their current training options than small firms. While 70 percent of all firms say they are highly satisfied or satisfied with their current training options, 77 percent of firms with over 246 employees are highly satisfied or satisfied with their options.

Large firms have access to significantly more education and training resources for their employees than small firms.

Larger firms are also more likely to believe that training is a good investment–and remember that larger firms provide more training, use a wider variety of training providers, train for a wider variety of reasons, and rate the skill levels of their workers lower than smaller firms did (see **Table Nineteen**).

Table Eighteen
Satisfaction of Missouri firms with existing training options

	Firm Size			
	1-25	26-100	101-245	246+
Highly satisfactory	12%	6%	9%	9%
Satisfactory	53	68	65	68
Unsatisfactory	12	16	19	17
Highly Unsatisfactory	4	4	1	1
No Opinion	19	7	6	5

(How to read this table: "12 percent of firms that employ between 1 and 25 workers reported that their existing training options were highly satisfactory.")

Table Nineteen
Q: "How good an investment is training for my firm?"
(Rating scale from 1 to 10, with 1 = Low and 10 = High)

	Firm Size			
	1-25	26-100	101-245	246+
1 - 3	9%	1%	2%	3%
4 - 7	29	21	19	10
8 - 10	62	78	79	87

(How to read this table: "9% of firms that employ between 1 and 25 workers rated training as a poor (1 - 3 out of 10) investment.")

Attitudes Toward Training by Industrial Sector. When examining training attitudes by industrial sector, 91 percent of firms in the finance industry were the most satisfied with their current training options. Conversely, the construction and wholesale and retail trade firms–the two industries which spend the least amount on training annually–are also the least satisfied with their current training options. Firms in these two sectors are the least convinced that training is a good investment.

JMF was interested in finding out how much training that Missouri firms provided to assist their employees basic skill improvement should be provided by the public sector. Sixty-eight percent of firms surveyed believed that none of the training they provided employees in basic education should be provided by the public educational system. Only 2 percent of firms believe the public education system should provide a substantial portion of basic education now provided by their company.

Manufacturing firms are much less likely to think that training represents a good investment of company resources. The manufacturing sector's ambivalence toward training appears to be related to a general concern over the costs of training and retraining costs. Twenty-six percent of manufacturing firms say that the costs of training and retraining present a problem for their company's growth.

• SOURCES AND FORMS OF TRAINING USED BY MISSOURI EMPLOYERS

Missouri employers report that informal on-the-job training is more important than any other form of training. Eighty-five percent of firms indicate that informal on-the-job training is a "very important" source of training for their company. Formal training at the work site and job rotation are the second and third most important sources of training for Missouri employers. Over 50 percent of firms reported that apprenticeships, courses outside the firm, community colleges, 4 year colleges and universities, private proprietary schools and vocational schools are of little or no importance to their company as sources of training (see **Table Twenty**).

Table Twenty
Importance of Training Sources Among Missouri Firms

Source/Method of Training	Very Important	Somewhat Important	Not At All Important
Informal training	85%	11%	4%
Formal training (inside company)	52	36	12
Job rotation	25	52	23
4 yr colleges and universities	23	39	38
Apprenticeships	21	32	46
Courses outside the firm	21	59	20
Computer-aided instruction	20	47	33
Vocational schools	15	45	40
Community colleges	15	47	38
Private proprietary schools	5	21	74

(How to read this table: "85 percent of respondents reported that informal training was a very important source of training.")

Missouri firms prefer private sector resources to provide formal training. The vast majority of Missouri firms (85 percent) rely on in-house staff to provide formal training to employees. Forty-five percent of all firms surveyed use equipment vendors to provide formal training. And over one-third of Missouri firms surveyed use consultants, trade or professional groups, and technical, junior or community colleges for formal training purposes (See **Table Twenty-One**).

Public sector resources such as Private Industry Councils and state customized training (the Missouri First program) are not used extensively by Missouri firms–less than 13 percent of firms surveyed had used these training sources in the past five years.

When asked to grade the performance of various training resources, employers rated state customized training, in-house training, and trade or professional groups, highest; employers gave the lowest grades to labor unions, local job service, and private industry councils.

Table Twenty-One
Use and Evaluation of Training Resources

		Grade				
Training Source	Used	A	B	C	D	F
In-house training/staff programs	85%	32%	47%	20%	1%	--
Equipment vendors	45	26	50	18	6	--
Trade or professional groups	41	29	55	13	2	
Consultants/training firms	40	26	50	18	6	--
Technical, junior, or comm. coll	38	22	54	23	2	--
4-year colleges and universities	33	27	54	16	2	1
Public vocational schools	32	16	49	26	6	2
Apprenticeships	21	28	48	20	3	1
Adult basic education	18	14	44	39	3	--
Private trade or proprietary	17	21	46	25	6	2
Local community organizations	16	15	50	34	2	--
Local job service office	15	9	31	27	18	5
Private industry council (JTPA)	13	20	39	26	13	1
Chamber of Commerce	8	15	38	43	4	--
State customized training	7	34	43	19	2	2
Labor unions	6	11	21	46	7	14

(How to read this table: "85 percent of respondents reported using in-house staff as a training resource for the firm; of those using in-house staff, 32 percent gave it a grade of 'A'.")

Sources and Forms of Training by Industrial Sector. Financial sector firms, manufacturing and TCPU firms and service firms offer substantially more formal training than other firms (see

Table Twenty-Two). Again, these industries are the most "innovative" of the six industrial sectors–they have experienced the greatest workforce changes as a result of new technologies, and they invest more than other industries in training and development. 87 percent of all finance firms surveyed currently offer formal training to employees and 74 percent of all manufacturing and TCPU and service firms offer formal training.

Table Twenty-Two
Percent of Firms by Industrial Sector That Offer Formal Training

	Const.	Mfg. TCPU	Trade	Fin.	Serv.
Yes	55%	74%	53%	87%	74%
No	45	26	47	13	26

(How to read this table: "55 percent of firms in the construction sector stated that they offer formal training to their employees.")

In contrast, firms in the construction industry–who do not characterize themselves as innovative, do not think training represents a particularly good investment, and have not experienced dramatic workforce changes as a result of new technologies–offer very few formal training options to employees. Only 55 percent of all construction firms surveyed have any sort of formal training program in place.

Firms in different industrial sectors use different sources and forms of training to meet their needs. The majority of firms in all industrial sectors use in-house staff to provide training. A significant number of firms in all industrial sectors also use equipment vendors, consultant firms, trade or professional groups and technical, junior or community colleges.

Firms in different industries utilize particular training sources to meet their specific needs. For example, manufacturing firms are much more likely to use vocational education as a source of training than firms in any other industrial sector; construction firms and TCPU firms are much more likely to use apprenticeships as a source of training than firms in other industries; and the construction and trade industries are much less likely to use four year colleges and universities, adult education and consultants as training sources than the other three industrial sectors.

The training sources a firm uses and the forms of training firms in different industrial sectors utilize will, of course, depend on a number of different variables including the history and culture of the industry and firm; the level of technology characterizing the industry and firm; and the level of commitment the firm has made to education and training.

• WHO RECEIVES TRAINING?

The likelihood that an employee will receive training, and the number of hours an employee spends in training, is related to their occupation. A majority of employees in all occupations receive some sort of training. However, the likelihood that an employee will receive formal training is related to occupation. For example, fifty-seven percent of the respondents cited that 75-100% of all managerial and administrative staff receive some formal training each year, whereas only 44 percent of respondents stated that 75-100% of clerical and administrative support staff receive formal training.

Semi-skilled employees are less likely than professional employees to receive formal training--despite the report that semi-skilled employees demonstrate the greatest skill deficiencies. Judging by employer responses regarding skill deficiencies in the labor force, semi-skilled employees need training more than any other occupational group. However, employer responses to questions regarding training make clear that employees in semi-skilled occupations are the least likely of employees in any occupational category to receive training.

A higher percentage of professionals and sales workers receive training; large percentages of operators, skilled and service workers receive no training at all. The proportion of workers in each occupational area within a firm that receive some form of training differs dramatically (see **Table Twenty-Three**).

Fifty-nine percent of professionals, 57 percent of sales and marketing employees and 55 percent of managers in the firms surveyed spend over 21 hours in formal training each year. In contrast, 41 percent of operators, fabricators, and laborers, 40 percent of service workers and 34 percent of clerical and administrative staff in firms surveyed spend more than 21 hours a year in formal training. Technicians and skilled craft and production workers fall somewhere in between: 51 percent of technicians and 51 percent of skilled workers spend more than 21 hours annually in training.

Regardless of occupational group, the majority of training time is spent in three areas: job specific skills; job orientation; and new technology. Skilled craft and production workers, managers, professionals, and sales and marketing workers spend somewhat more time training in new technology than the other occupational groups. Skilled craft and production workers, operators, fabricators, laborers and sales and marketing spend more time than other occupational groups in improving job specific skills, and professionals, skilled craft and production workers, managers and sales and marketing workers spend more time in training to learn new technology. (see **Table s Twenty-Four** through **Table Twenty-Seven**).

Table Twenty-Three
Percent of Employees Who Spend Time in Formal Training

Occupational group	1-25%	26-50%	51-75%	76-100%
Managerial and admin.	20%	16%	7%	57%
Professionals	20	15	10	55
Technicians	21	21	9	50
Skilled craft, production	26	18	9	47
Operators, fabricators	25	21	6	48
Clerical and admin. support	30	20	7	44
Sales and marketing	20	14	4	61
Service workers	16	12	6	66

(How to read this table: "20% of respondents reported that their managers formal training.")

Table Twenty-Four
Typical Number of Hours per Year Spent in *Remedial Training*

Occupation	0 hours	1 - 40 hours	41+ hours
Managers	62%	27%	11%
Professionals	69	24	8
Technicians	71	23	6
Skilled craft	69	24	7
Clerical	61	31	8
Operators	63	24	13
Service	63	33	4
Sales/Marketing	68	22	11

(How to read this table: "62% of respondents reported that their managerial workers typically spent no time in remedial training during the year.")

Table Twenty-Five
Typical Number of Hours per Year Spent in *Job Orientation*

Occupation	1-20 hours	21 - 40 hours	41-100 hours	101+ hours
Managers	46%	26%	27%	13%
Professionals	49	24	14	13
Technicians	55	21	15	9
Skilled craft, prod.	52	17	16	15
Operators, fabricators	52	21	13	14
Clerical, admin. support	56	21	16	7
Sales and marketing	47	25	17	11
Service	60	21	12	7

Table Twenty-Six
Typical Number of Hours per Year Spent in *Job-Specific* Training

Occupation	1-20 hours	21 - 40 hours	41-100 hours	101+ hours
Managers	51%	25%	16%	9%
Professionals	57	25	13	6
Technicians	64	20	12	4
Skilled craft, prod.	55	17	17	11
Operators, fabricators	59	16	14	11
Clerical, admin. support	70	18	8	4
Sales and marketing	56	21	16	6
Service	67	18	10	5

Table Twenty-Seven
Typical Number of Hours per Year Spent in Training for *New Technologies*

Occupation	1-20 hours	21 - 40 hours	41-100 hours	101+ hours
Managers	60%	19%	14%	8%
Professionals	56	23	15	7
Technicians	60	21	12	7
Skilled craft, prod.	60	17	16	7
Operators, fabricators	74	8	12	6
Clerical, admin. support	74	14	10	2
Sales and marketing	60	19	15	5
Service	84	10	3	3

The highest training priority for the majority of Missouri firms regardless of firms size or industrial sector is for job-specific skills. Seventy-one percent of all firms surveyed list job specific skills as their first education and training priority. Eleven percent of firms listed education and training in new technologies and certification or licensing (10%) as top training priority.

Training Provision by Firm Size. Small firms are much less likely than large firms to provide training to employees. When small firms do provide training, however, they report providing employees with significantly more training than large firms.

The vast majority of employees who receive training spend between 1 and 20 hours in training annually. A much higher proportion of employees in small firms receive over 40 hours of training annually, however. For example, 25 percent of skilled workers in small firms receive 40 or more hours of training annually but only 9 percent of skilled workers in large firms receive 40 or more hours of training annually. Similarly, 20 percent of clerical employees receive more than 40 hours of training per year in small firms but only 3.3 percent of clerical employees in large firms receive this much training.

The tendency for employees in small firms who do receive training to receive more training than their large firm counterparts is consistent across all occupational categories.

• TRAINING PRACTICES OF 'INNOVATIVE' FIRMS

Firms that are taking the lead in adopting innovative management styles, have new production technologies, and aggressive marketing practices are also taking the lead in making investments in their workers.

The JMF survey asked respondents to rank the 'innovativeness' of their firms across several dimensions (see above discussion). Analysis shows that firms that are self defined as innovative appear to provide more training to a wider range of workers, and are more satisfied that training is a good investment for their firm. Perhaps most important, innovative firms were far more likely to promote workers from within the firm rather than hire from outside. These firms stand as models for other Missouri employers in being competitive by making substantial investments in the development of employees. Among other interesting findings:

- Innovative firms were more likely to provide tuition reimbursement (34 percent for innovative firms vs. only 22 percent for all others) and developmental training (42 percent vs. 24 percent) as employee benefits.
- Innovative firms were more likely to believe that training is a good investment for their firm (73 percent of innovative firms vs. 52 percent).
- Innovative firms are more likely to use a full range of training options than are other firms (see **Table Twenty-Eight**).

Table Twenty-Eight
Use of Training Resources
Innovative Firms vs. Not Innovative Firms

Training Resource	Innovative	Not Innovative
Informal training	97%	90%
Job rotation	66	49
Formal in-house courses	82	64
Apprenticeships	48	42
Courses outside firm	76	60
Community colleges	47	37
4 year colleges	44	33
Private proprietary schools	21	17
Vocational schools	47	42
Computer-aided instruction	59	46

(How to read this table: "97 percent of firms that defined themselves as innovative reported that informal training was an important training method in the firm.")

APPENDIX A: FREQUENCY DISTRIBUTIONS OF SURVEY RESULTS

Part One. General Information

1. Distribution of survey responses by Missouri region:

Industry	Number of Responses	Percent of Responses
St. Louis	237	30.3
Kansas City	113	14.5
Springfield/Joplin	55	7.0
Columbia/Jefferson City	41	5.2
St. Joseph	20	2.6
Non-Urban North	116	14.9
Non-Urban South	186	23.8
Out of State	13	1.7

2. Distribution of survey responses by major industry:

Industry	Number of Responses	Percent of Responses
Mining/Construction	80	10.1
Manufacturing Non Durable	35	4.4
Manufacturing Durable	120	15.1
TCPU	32	4.0
Wholesale	40	5.0
Retail Trade	113	14.2
FIRE	58	7.3
Services	314	39.5
Government	2	0.3

3. How many people does your firm employ at this location? (N= 788)

Number of Employees	Number of Responses	Percent of Responses
1-10	316	40.1%
11-25	104	13.2
26-100	95	12.1
101-245	160	20.3
246+	113	14.3

How many people does your firm employ statewide? (N=430)

Number of Employees	Number of Responses	Percent of Responses
1-10	115	26.7%
11-25	48	11.2
26-100	47	10.9
101-245	95	22.1
246+	125	29.1

3a. About how many employees did you have three years ago at this location? (N=705)

Number of Employees	Number of Responses	Percent of Responses
1-10	306	43.4%
11-25	76	10.8
26-100	105	14.9
101-245	120	17.0
246+	98	13.9

3b. In the next three years, do you expect your firm's employment to: (N = 802)

Increase	50.1%
Decrease	4.7
Stay the same	35.5
Not sure	9.6

4. Where is your headquarters? (N = 807)

Missouri	79.6%
Out of state	19.6
Foreign	0.9

5. On a scale from 1 to 5, with "1" meaning that you disagree and "5" meaning you agree, please describe your firm:

	Disagree				Agree
	1	2	3	4	5
(a) My company is innovative in developing new products or services (N = 745)	9.0%	9.3	24.4	26.7	30.6
(b) My company has an innovative management style (N = 754)	6.1%	8.9	28.5	30.1	26.4
(c) My company uses highly advanced production processes (N = 690)	17.7%	15.7	29.0	21.0	16.7
(d) My company is very aggressive in marketing its products (N = 746)	8.4%	14.7	23.9	25.3	27.6

6. What is the approximate age distribution of your personnel? (Please estimate the percentage of your work force in each age group. The total should be 100%.)

Results to be tabulated

7. Is your business: 24.0% minority owned 78.6% female owned

8. Are your workers represented under collective bargaining agreements? (N=799)

Yes	No
17.4%	82.6%

9. There are many issues that affect the ability of a company to grow -- proximity to markets, cost of materials, availability of financing, etc. This survey is concerned about whether your company's growth is limited by work force issues. On a scale from 1 to 5, with a "1" meaning that the issue is not a problem and a "5" meaning that the issue is a critical problem, please tell us whether you have problems with:

	No Problem			Big Problem	
	1	2	3	4	5
Building cost and availability (N=746)	39.0%	18.9%	21.2%	11.1%	9.8%
Financing for equipment (N=746)	38.5	20.4	22.4	11.8	7.0
Labor availability (N = 769)	23.8	15.7	23.7	29.4	16.4
Labor cost (N = 762)	17.7	16.1	32.0	21.1	13.0
Labor quality (N=764)	14.0	13.1	25.8	25.9	21.2
Cost on training or retraining (N=757)	15.9	16.8	30.6	22.2	14.5
Proximity to market or suppliers (N=741)	44.%	28.6	18.5	6.5	2.4
Market changes (N=743)	22.2	23.8	27.9	17.4	8.7
Technological changes (N=744)	28.6	24.7	28.1	12.5	6.0
Foreign competition (N=740)	62.7	16.8	9.6	5.8	5.1
Good roads, airports, ports, etc. (N=750)	56.3	19.3	14.0	6.8	3.6
Government regulation (N=755)	17.1	12.7	24.4	21.3	24.5
State and local tax burden (N=740)	20.4	15.9	31.4	17.7	14.6

10. Please give the approximate annual sales volume (dollars) for your company for the following years:

Sales Volume	1988 (N = 582)	1989 (N = 590)	1990 (N = 558)
Less than $1 million:	45.2%	42.7%	39.6%
$1 million to $5 million:	21.5	23.1	24.4
$5 million to $14 million:	12.7	13.2	12.2
More than $14 million:	20.6	21.0	23.8

Part Two. Workers, Jobs and Skills

11. Where do you recruit most of your workers?

	Local Community	Local Region	Statewide	Midwest Region	Nation
Managers (N = 644)	46.3%	28.0%	9.2%	12.6%	13.0%
Professionals (N = 591)	37.7	34.7	9.3	13.5	11.5
Technicians (N = 527)	49.3	38.5	7.0	8.0	3.4
Skilled craft and production (N = 459)	62.1	34.4	4.1	2.2	1.5
Operators, fabricators (N = 410)	70.2	28.0	2.2	1.2	1.7
Clerical and admin. support (N = 655)	79.1	22.6	0.6	0.9	0.6
Sales and marketing (N = 532)	49.2	29.3	6.4	6.6	13.0
Service workers (N = 600)	77.3	25.5	1.3	0.8	0.3

12. How much difficulty do you have recruiting and hiring qualified workers?

	Much	Some	Little	None
Managers (N=640)	19.8%	37.0%	23.3%	19.8%
Professionals (N=575)	24.5	38.1	22.3	15.1
Technicians (N=501)	22.0	42.1	22.2	13.8
Skilled Craft, Production (N=456)	23.2	37.5	23.9	15.4
Operators, Fabricators (N=396)	13.4	29.8	29.5	27.3
Clerical and Admin. (N=640)	9.8	27.7	38.8	23.8
Sales and Marketing (N=498)	16.1	37.6	29.3	17.1
Service Workers (N=588)	21.4	29.4	25.7	23.5

13. Which of the following sources do you use most frequently for recruiting employees? What is your opinion of each source? (N=784)

Recruiting Source	**Used**	**Effective**	**Ineffective**
Word-of-mouth/employees	87.9%	91.7%	8.3%
Newspaper advertisements	77.9	82.4	17.6
State job service	57.8	48.1	51.9
Schools and colleges	55.1	70.9	29.1
Private employment agencies	35.6	68.8	31.2
Trade organizations	18.1	73.0	27.0
Job fairs	16.1	55.8	44.2
Private proprietary schools	9.9	66.7	33.3
Radio or TV ads	8.4	69.0	31.0
Union programs	5.6	64.9	35.1

14. For each of the following occupational groups, does your firm tend to hire from outside or promote from within?

	100% Hire	**Mostly Hire**	**50/50**	**Mostly Promote**	**100% Promote**
Managers (N = 590)	17.8%	10.5%	14.9%	15.4%	41.4%
Professionals (N = 472)	43.6	20.6	12.7	7.0	16.1
Technicians (N = 412)	36.4	14.1	18.7	9.5	21.4
Skilled Craft and Production (N = 359)	27.3	14.5	19.5	11.7	27.0
Operators, fabricators (N = 308)	34.1	13.6	14.0	9.1	29.2
Clerical and admin. support (N = 547)	38.9	15.2	17.7	8.0	20.1
Sales and Marketing (N=423)	40.4	17.0	16.1	7.1	19.4
Service workers (N=484)	50.4	11.0	15.3	4.5	18.8

15. Which two jobs are most critical to your firm's success? Please list in rank order of importance. For each job you list, please tell us if you experience the following problems:

	Hiring		Retaining		Training	
Job	Yes	No	Yes	No	Yes	No
____________	____	____	____	____	____	____
____________	____	____	____	____	____	____

Results to be tabulated

16. For which jobs are you really unhappy about the quality of current workers?

Salaried employees	Hourly employees
1. ____________	1. ____________
2. ____________	2. ____________

Results to be tabulated

17. One of the most important factors in a firm's success is the quality of its labor force. One of the ways the state can help Missouri firms compete is by using its education and training system to assure that workers have skills employers need. Could your current workforce–managerial; professional, technical and sales; and labor–benefit from further education and training in any of the following areas?

(a) Rate how much your *managerial* workforce could benefit from the following areas of training:

Training or skill areas	None	Few	Some	Most
Computation skills (N= 538)	24.7%	26.2%	24.7%	24.3%
Computer trianing (N= 589)	9.8	16.3	27.0	46.9
Math skills (N= 547)	22.1	29.3	25.4	23.2
Problem solving skills (N= 592)	11.0	16.4	27.4	45.3
Group effectiveness skills (N=567)	10.2	13.2	28.7	47.8
Leadership (N= 594)	7.4	12.6	25.6	54.4
Communication skills (N=589)	5.9	14.6	22.9	56.5
Technical operator skills (N=449)	41.4	30.5	15.6	12.5
Maintenance & repair skills (N=475)	43.2	29.5	14.9	24.6
Reading and writing skills (N=537)	27.2	24.8	23.5	24.6
Marketing skills (N=554)	13.9	22.2	27.3	36.6
Accounting/bookkeeping (N=579)	15.4	31.6	27.8	25.2
Ability to adapt and learn (N=567)	15.9	21.5	28.6	34.0
Attitude (work ethic) (N=568)	16.9	27.3	21.3	34.5
Setting, meeting priorities (N=567)	10.6	18.2	28.0	43.2

(b) Rate how much your professional, technical, and sales workforce could benefit from the following:

Training or skill areas	None	Few	Some	Most
Computation skills (N= 476)	19.5%	26.1%	28.2%	26.3%
Computer trianing (N= 520)	9.4	16.3	31.9	42.3
Math skills (N= 490)	17.8	26.1	28.2	28.0
Problem solving skills (N= 525)	8.4	16.2	34.9	40.6
Group effectiveness skills (N=510)	11.0	15.5	34.3	39.2
Leadership (N=514)	8.8	17.7	35.0	38.5
Communication skills (N=522)	6.3	11.9	29.9	51.9
Technical operator skills (N=430)	33.5	28.1	20.2	18.1
Maintenance & repair skills (N=421)	39.4	27.3	18.8	14.5
Reading and writing skills (N=485)	21.9	24.3	25.2	28.7
Marketing skills (N=478)	16.3	20.5	31.6	31.6
Accounting/bookkeeping (N=492)	21.3	31.9	27.6	19.1
Ability to adapt and learn (N=503)	11.7	21.7	29.0	37.6
Attitude (work ethic) (N=522)	12.6	21.1	28.5	37.7
Setting, meeting priorities (N=490)	9.8	17.3	32.4	40.4

(c) Rate how much your labor workforce could benefit from the following:

Training or skill areas	None	Few	Some	Most
Computation skills (N= 504)	16.7%	18.1%	27.6%	37.7%
Computer trianing (N= 492)	25.2	27.0	17.9	29.9
Math skills (N= 530)	11.3	18.1	29.4	41.1
Problem solving skills (N= 543)	9.8	14.5	26.0	49.7
Group effectiveness skills (N=520)	14.2	15.8	26.3	43.7
Leadership (N=524)	16.0	26.7	28.4	28.8
Communication skills (N=550)	7.1	12.7	29.1	51.1
Technical operator skills (N=471)	18.5	20.8	28.5	32.3
Maintenance & repair skills (N=504)	14.5	21.0	31.7	32.7
Reading and writing skills (N=532)	11.8	18.0	26.9	43.2
Marketing skills (N=448)	41.1	23.4	16.5	19.0
Accounting/bookkeeping (N=466)	40.3	29.6	16.1	13.9
Ability to adapt and learn (N=554)	7.9	14.1	28.5	49.5
Attitude (work ethic) (N=577)	6.9	12.5	24.6	56.0
Setting, meeting priorities (N=520)	13.1	17.9	32.1	36.9

Part Three. Education and Training

18. Do you offer employees any formal training programs ? (N = 779)

Yes: 68.9% No: 31.1

19. For each occupational group, approximately what percentage of your employees receive some formal training each year (either in-house or outside the firm)? For each group, provide a best estimate of the percentage receiving training annually. Then, please estimate the number of hours per year that a typical employee in that occupational group spends receiving some training.

	Percentage of Employees Trained			
Occupational group	1-25%	26-50%	51-75%	76-100%
Managerial and administrative (N= 474)	19.8%	16.2%	7.2%	56.8%
Professional (N=328)	20.4	15.2	9.5	54.9
Technicians (N=268)	20.5	21.3	8.6	49.6
Skilled craft and production (N=194)	25.8	18.0	8.8	47.4
Operators, fabricators, laborers (N=174)	24.7	20.7	6.3	48.3
Clerical and admin support (N=347)	29.7	19.6	6.6	44.1
Sales and marketing (N=280)	20.4	13.9	4.3	61.4
Service workers (N=227)	16.3	11.5	6.2	66.1

Occupational group	Hours per year 1-20	21-40	41-100	101+
Managerial and administrative (N= 450)	41.3%	32.7%	17.6%	8.4%
Professional (N=318)	45.0	32.4	17.3	5.3
Technicians (N=258)	48.8	27.5	15.9	7.8
Skilled craft and production (N=182)	48.9	20.3	15.9	14.8
Operators, fabricators, laborers (N=167)	59.3	16.2	16.8	7.8
Clerical and admin support (N=334)	66.5	21.0	8.1	4.5
Sales and marketing (N=266)	43.2	26.7	22.6	7.5
Service workers (N=225)	59.6	20.9	14.2	5.3

20. How important is each of the following forms of training to your company?

	Very	Somewhat	Not at all
Informal learning (OJT)(N = 716)	85.1%	10.6%	4.3%
Formal training (inside company)(N = 689)	52.0	36.0	12.0
Job rotation (N = 670)	25.1	52.4	22.5
4-year colleges and universities (N = 656)	22.9	38.9	38.3
Apprenticeships (N = 635)	21.4	32.4	46.1
Courses outside the firm (N = 672)	21.3	58.9	19.8
Computer-aided instruction (N = 648)	20.1	46.5	33.5
Vocational schools (N = 643)	15.2	45.3	39.5
Community colleges (N = 658)	14.9	46.8	38.3
Private proprietary schools (N = 606)	5.1	21.3	73.6

21. What are the three most common reasons your firm provides training (formal and informal) to its employees? (Mark **1** next to the most frequently provided kind of training, **2** next to the second most common, and **3** next to the third most frequently provided training)(N = 580)

First most common reason:

70.5%	To increase job specific skills
10.7	Use of new technologies or methods
10.2	For certification or licensing
3.4	Preparing for promotion or new occupation
1.7	Other reasons
1.6	As a fringe benefit
1.4	To enhance reading and math skills
0.5	As a reward for good performance

Second most common reason:

42.8%	Use of new technologies or methods
19.6	To increase job specific skills
17.8	Preparing for promotion or new occupation
12.3	For certification or licensing
3.0	As a reward for good performance
2.6	To enhance reading and math skills
1.3	As a fringe benefit
0.6	Other reasons

Third most common reason:

32.6%	Preparing for promotion or new occupation
24.7	Use of new technologies or methods
13.6	For certification or licensing
6.7	As a fringe benefit
6.7	To increase job specific skills
6.3	As a reward for good performance
5.2	To enhance reading and math skills
4.2	Other reasons

22. What is your best estimate of the number of hours per year, on average, that an employee in each occupation group spends for the following training purposes.

	Hours/Year for Remedial Education			
Occupational group	1-20	21-40	41-100	101+
Managerial and administrative (N= 55)	65.5%	18.2%	12.7%	3.6%
Professional (N=29)	72.4	10.3	10.3	6.9
Technicians (N=25)	72.0	12.0	12.0	4.0
Skilled craft and production (N=29)	75.9	20.7	3.4	0.0
Operators, fabricators, laborers (N=38)	84.2	2.6	7.9	5.3
Clerical and admin support (N=51)	72.5	15.7	7.8	3.9
Sales and marketing (N=30)	66.7	13.3	16.7	3.3
Service workers (N=55)	74.5	18.2	5.5	1.8

	Hours/Year to Orient to Job			
Occupational group	1-20	21-40	41-100	101+
Managerial and administrative (N= 292)	45.9%	25.7%	15.8%	12.7%
Professional (N=199)	49.2	23.6	14.1	13.1
Technicians (N=184)	54.9	21.2	14.7	9.2
Skilled craft and production (N=166	52.4	16.9	15.7	15.1
Operators, fabricators, laborers (N=173)	52.0	20.8	13.3	13.9
Clerical and admin support (N=281)	56.2	21.0	16.0	6.8
Sales and marketing (N=196)	46.9	24.5	17.3	11.2
Service workers (N=235)	59.6	21.3	12.3	6.8

	Hours/Year to Improve Job Skills			
Occupational group	1-20	21-40	41-100	101+
Managerial and administrative (N= 456)	50.9%	24.8%	15.6%	8.8%
Professional (N=286)	57.0	24.8	12.6	5.6
Technicians (N=255)	63.5	20.4	11.8	4.3
Skilled craft and production (N=191)	55.0	17.3	17.3	10.5
Operators, fabricators, laborers (N=180)	59.4	16.1	13.9	10.6
Clerical and admin support (N=334)	70.4	18.3	7.5	3.9
Sales and marketing (N=266)	56.0	21.4	16.2	6.4
Service workers (N=236)	67.4	18.2	9.7	4.7

Occupational group	Hours/Year to Learn New Technology 1-20	21-40	41-100	101+
Managerial and administrative (N= 402)	59.5%	19.2%	13.9%	7.5%
Professional (N=281)	55.5	22.8	14.6	7.1
Technicians (N=257)	60.3	21.4	11.7	6.6
Skilled craft and production (N=139)	60.4	17.3	15.8	6.5
Operators, fabricators, laborers (N=120)	74.2	8.3	11.7	5.8
Clerical and admin support (N=262)	74.0	14.1	9.9	1.9
Sales and marketing (N=196)	60.2	19.4	15.3	5.1
Service workers (N=146)	83.6	10.3	3.4	2.7

Occupational group	Hours/Year as a Fringe Benefit 1-20	21-40	41-100	101+
Managerial and administrative (N= 118)	83.9%	4.2	9.3	2.5
Professional (N=76)	85.5%	7.9	5.3	1.3
Technicians (N=53)	94.3%	1.9	3.8	0.0
Skilled craft and production (N=33)	90.9%	3.0	6.1	0.0
Operators, fabricators, laborers (N=35)	94.3%	5.7	0.0	0.0
Clerical and admin support (N=72)	91.7%	1.4	6.9	0.0
Sales and marketing (N=51)	84.3%	5.9	9.8	0.0
Service workers (N=51)	92.2%	2.0	3.9	2.0

23. What is your firm's total annual expenditure for training? (Include only "direct" costs -- don't include the cost of salaries for workers who are being trained) (N=438)

Amount	Percent
Less than $1,000	23.5%
$1,000 - $5,000	26.5
$5,001 - $20,000	20.3
$20,001 - $100,000	18.7
$100,001+	11.0

24. What percent of your firm's total training budget is spent on basic education that you believe should be the responsibility of the state's education system? (N=617)

None	67.7%
1% to 10%	15.4
11% to 50%	14.9
51% to 100%	2.0

25. Given all factors (the need for basic education, changing skills, new technologies, and training as a fringe benefit) what percent of your firms total training budget would you spend anyway? (N=597)

None	25.0%
1% to 10%	7.7
11% to 50%	8.2
51% to 100%	59.2

26. Have you used any of the following sources of formal job training in the past five years? Mark Y if Yes, N if No. If you mark Yes, please give the source a grade between A and F that reflects your evaluation of the training employees have received. (N=690)

		Grade				
Source	Used	A	B	C	D	F
In-house training staff/programs	85.2%	31.8	46.9	19.5	1.3	0.5
Equipment vendors	45.2	22.9	51.4	22.9	2.1	0.7
Trade or Professional Groups	40.6	29.4	55.1	12.8	2.3	0.4
Consultants/training firms	40.4	25.5	50.2	18.3	5.7	0.4
Technical, junior, or comm. colleges	38.0	21.5	54.1	22.7	1.7	0.0
4-year colleges and universities	32.6	27.2	54.0	16.0	2.3	0.5
Public vocational schools	31.7	16.1	49.3	26.3	6.3	2.0
Apprenticeships	21.2	28.2	48.1	19.8	3.1	0.8
Adult basic education	17.8	14.2	44.2	38.9	2.7	0.0
Private trade or proprietary schools	17.0	21.4	45.5	25.0	6.3	1.8
Local community organizations	15.8	14.6	49.5	34.0	1.9	0.0
Local job service office	14.6	8.6	31.2	26.9	18.3	5.0
Private Industry Council (JTPA)	12.6	20.2	39.3	26.2	13.1	1.2
Chamber of Commerce	7.8	14.9	38.3	42.6	4.2	0.0
State customized training	7.4	34.0	42.7	19.1	2.1	2.1
Labor unions	5.5	10.8	21.4	46.4	7.1	14.3

27. Does the range of training opportunities available satisfy your firm's needs? (N = 733)

Highly Satisfactory	10.4%
Satisfactory	59.5
Unsatisfactory	14.6
Highly Unsatisfactory	3.0
No Opinion	12.6

29. On a scale of 1 to 10, with "1" meaning poor and "10" meaning excellent, is training a good investment for your firm? (N = 714)

One	2.8%
Two	1.7
Three	1.1
Four	1.4
Five	7.1
Six	3.2
Seven	8.7
Eight	19.9
Nine	9.8
Ten	44.3

30. How many times a year do you talk to a representative of the following institutions or organizations about your firm's training needs and their training programs?

Organization	Times Per Year		
	1-5	6-10	11+
In-house training staff (N=427)	31.6%	15.7	52.7
4-year colleges and universities (N=190)	82.6%	9.5	7.9
2-year post-secondary institutions (N=132)	82.6%	9.1	8.3
Adult basic education providers (N=117)	84.6%	6.0	9.4
Public vocational schools (N=171)	81.3%	12.9	5.8
Private proprietary schools	78.7%	13.1	8.2
Private Industry Council (JTPA)	69.9%	21.7	8.4
Trade or professional groups (N=236)	66.5%	16.9	16.5
Labor Unions (N=55)	63.6%	21.8	14.5
Vendors (N=270)	55.9%	24.1	20.0
State training agencies (N=102)	70.6%	16.7	12.7
Apprenticeship sponsors (N=76)	68.4%	15.8	15.8

30. Please mark if you agree or disagree with the following statements. Circle the number that most closely reflects your opinion, with a **1** meaning that you strongly disagree and a **5** meaning that you strongly agree.

		Disagree				Agree
		1	2	3	4	5
(a)	My company is planning on increasing training investments in the near future (N=751)	23.3%	13.2	25.4	21.8	16.2
(b)	My company has enough well-qualified employees available to train new hires (N=747)	12.3%	18.4	16.7	23.2	19.4
(c)	We only hire new employees who can contribute immediately to our needs. (N=757)	16.5%	24.7	26.2	18.9	13.7
(d)	Formal employee training is not worth what it costs. (N=739)	46.5%	24.2	15.6	6.8	6.9

(e)	Employee trunover is too high to justify much training. (N=747)	43.8%	23.6	18.9	8.7	5.1
(f)	Over the long-term, it's worth investing in your workers. (N=749)	3.6%	2.0	13.0	29.9	51.5
(g)	Our local labor market can supply all my company's labor needs for the foreseeable future. (N=755)	22.4%	19.6	21.9	18.9	17.2
(h)	The quality of my company's new hires has declined in the past five years. (N=743)	12.1%	11.7	22.3	28.7	25.2

Part Four. Technology Issues

32. Please rate your firm's strengths in the following areas relative to your industry's average. (Circle 1 if your firm is well below industry average; 2 if it is below industry average; 3 if it is about industry average; 4 if it above industry average; and 5 if it is well above industry average.

	Well-below average 1	2	Industry average 3	4	Well-above average 5
Quality control (N=674)	1.2%	3.7%	27.6%	35.8%	31.8%
Inventory management (N=619)	2.6	10.7	43.9	29.6	13.2
Manufacturing technology (N= 387)	3.9	10.3	42.1	29.5	14.2
Innovation in product lines (N=494)	2.2	8.5	35.6	34.4	19.2
Innovation in the way you make products (N=416)	3.6	7.9	37.7	35.8	14.9
Management (N=680)	1.0	6.8	35.3	40.7	16.2
Marketing and sales (N=641)	4.1	14.2	37.6	31.2	12.9
Diversification (N=571)	5.4	14.4	39.2	28.2	12.8
Workforce skills (N=680)	1.2	8.2	47.5	32.4	10.7
Responsiveness to market changes (N=642)	1.9	7.8	35.5	37.2	17.6

33. During the last five years, have any of your firm's product and process innovations come from the following potential sources ? (Please check all that apply.)(N=450)

	For products	For process
Customers	57.6%	39.8%
Trade information through journals, shows, etc.	47.3	48.2
Management or private consultants	45.6	61.3
Equipment vendors	44.1	32.4
In-plant R&D and engineering	31.6	30.0
Parent company	31.1	29.3
Direct labor	27.2	46.0
Universities	4.2	10.4
Technical/community college	3.4	9.1

34. Which of the following technologies are currrently in use, planned for use in the next two to three years, or, in your best judgment, will be necessary at some time in the future at your firm? (Please check the category that best represents your situation.)

	Currently in use	Planned (2-3 years)	Needed in future
Hard Technologies			
Automated in-process inspection (N=149)	37.6%	22.1%	40.3%
Robots (N=86)	24.4	18.6	57.0
Automated material handling systems (N=177)	38.4	28.2	33.3
Computer aided design (N=236)	61.0	19.1	19.9
Computer aided engineering packages (N=166)	57.2	22.9	19.9
Computer numerical control machine tools (N=131)	56.5	16.0	27.5
Programmable controllers (N=156)	72.4	9.0	18.6
Shop floor micro or personal computers (N=295)	57.6	24.1	18.3
Data collection devices (bar code readers) (N=238)	35.3	37.8	26.9
Soft Technologies			
Production, planning and inventory control software (N=403)	62.0%	25.1%	12.9%
Statistical process control (N=296)	63.2	23.6	13.2
Group technology (teamwork, quality circles (N=287)	57.8	21.6	20.6

35. Would you be willing to participate in any of the following ? (Check if "Yes") (N=482)

Joint training programs with other local employers.	64.5%
State-sponsored customized training.	56.8%
Purchase supplies cooperatively with other users in the area.	53.1%
Market research on your industry.	49.6%
Adult basic skills programs at your workplace.	48.1%
Share equipment cooperatively with other users in the area.	29.3%
R & D efforts with other companies in this area	27.0%

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